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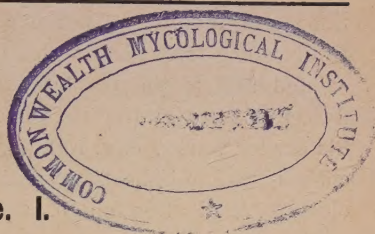
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## The Meliolineae. I.

By F. L. Stevens.

(With Plates I—II.)

The antiquity of the *Meliola* group, the great constancy of certain characters, as of the spores; the large variation of other characters, as of the setae and hyphopodia; its apparently highly developed biologic specialization and withal its widespread geographic distribution in the warmer countries make the morphologic and taxonomic study of this group of unusual interest.

All of the species are parasitic, most of them causing but small injury to the hosts, but interesting gradations to forms that do produce large disease spots occur.

The occurrence of morphologically identical forms on related hosts in the most widely separated parts of the world, as in South Africa, India, Australia, Central and South America, is frequent. The occurrence of groups of related but slightly divergent species on members of many host families indicates a biologic isolation quite comparable, in its relation to evolution, to that of geographic isolation.

That the numerous parasites of the *Meliolas* (260a) are as widely distributed as their hosts, and that the associations are usually between the same species, bespeaks the long existence of this relation.

It is probably more than a coincidence that heavily parasitized species are more frequently associated with disease spots than are species not so parasitized; indicating a symbiotic attack that is not common in plant pathology.

Excessive parasitism on the *Meliola* colonies usually suppresses perithecial formation, often also the formation of setae, thus rendering identification of such parasitized specimens impossible unless there is some very distinctive character of mycelium, hyphopodia, or colony.

Much confusion in morphology and taxonomy has resulted from failure to discriminate between the *Meliola* and its numerous parasites. Thus pycnidia and conidiophores and even the perithecia of the parasites on the *Meliola* have been repeatedly described as organs of the *Meliola*. Such error has been most frequently the ascription of the role of a conidial

stage to *Helminthosporium* (*Sporhelminthium* Speg.) or *Arthrobotryum*. This error occurs throughout Gaillard's monograph and in other early descriptions and in quite a number of recent descriptions. It is a pernicious, troublesome error since it led to ascribing differences where no differences existed and to the confounding of mycelial setae with conidiophores in descriptions, a matter that is now of much importance. Spegazzini in his earlier works, e. g. Fung. Guar. 1883, apparently uses the term "hyphis conidiiferis" to indicate mycelial setae, as well as conidiophores. Arnaud clearly called attention to such errors in 1918 as I did also in 1916.

The genus *Meliola* was established in 1825 by Fries. A comprehensive discussion of the genus with its then known six species was given with excellent figures in 1851 by Bornet. Gaillard's "Le Genre *Meliola*", a book of more than 160 pages, in 1892, recognized 111 species, with nearly thirty names excluded or dubious and several others as synonyms. In 1920 Beeli listed 459 specific names in the then recognized two genera, and introduced the exceedingly helpful scheme of group numbers.

The *Meliolineae* now comprise close to 1000 species. They have ever been attractive forms, usually conspicuous, and have been largely collected, leading to a voluminous literature, numbering in the present bibliography more than 350 titles.

The value to be attached to various characters for taxonomic purposes is problematic. The ascospores are remarkably uniform in a given species and even in groups of species. Thus, on many families are groups of closely related species differing in minor characters yet all agreeing in spore characters; the spores in all being of the same septation and approximate size and shape. Perhaps in no other natural group of fungi showing such geographic and host range and such diversity in other characters is there such constancy in spore character. Spores other than 4- or 5-celled almost never occur. Spore septation is almost absolute in constancy, perhaps the only exceptions being *M. stuhlmanniana* in which the spores are said to be 3 to 4-septate and *M. pellata* in which they are said to be 2 to 3-septate. Moreover, color and general aspect are very uniform. Only in very rare instances, as for example in *M. psidii*, does a distinctive form occur and here it is found in the conic spore ends. It is noteworthy that *M. psidii* from most diverse sources, Costa Rica, Surinam, Equador, Porto Rico and Brazil, shows this character constantly.

Parasitism is a valuable and significant character that has been much neglected in descriptive works though as early as 1852 Bornet noted the ability of these fungi to cause disease. In fact most species, merely sending haustoria into the epidermis, cause no visible ill effect upon the host, but on the other hand some, as for example *M. morbosa* and *M. parasitica*, cause large diseased spots on leaves. All stages between these two extremes occur.

The color of the individual threads of the mycelium is often of great significance; sometimes, as with *M. clavulata*, the mycelium is translucent



and yellow, in other species it is dark. Thickness of the mycelial thread appears to be quite constant in a given species, but differs in different species. The mycelium, also, frequently shows distinctive character in its branching and in contour, as straight, sinuous.

The influence of the host upon the morphology of the parasite shows chiefly upon the mycelium. For example, in the case of *M. panici* the mycelial strands that run longitudinally, with the veins, are quite straight; while the transverse mycelium is crooked, like unto the easy direct road of the valley in contrast with the winding angular turns of the mountain highway. Similar effect of the substratum is frequently seen. Thus, a given species, hypophyllous among many trichomes, shows a mycelium that is crooked; while the same species epiphyllous in the absence of obstructing trichomes presents a comparatively straight mycelium. When such differences, due to host contour, are known to occur it is obvious that variation for similar cause is to be expected in a given species if it grows upon two hosts of different degrees of roughness. *M. mandevillea* affords an excellent example of the effect of position on morphology, the longer setae hypophyllous giving a different formula for these than for the epiphyllous colonies.

Colony habit is certainly of significance; whether crustose, arachnoid, large, small, etc. and serves to separate certain species clearly. The capitate hyphopodia, in position, shape, size and length of stalk-cell are very significant. Usually there is constancy in these characters, but in some instances their very variability is characteristic. Recently Spegazzini used the term "antrorse" regarding the capitate hyphopodia in useful characterization. The mycelial setae and perithecial appendages and setae, next to the spores, are significant, both as to their character and length and branching.

The mucronate hyphopodia though usually described in specific diagnosis, and occasionally cited as of distinctive character are of very little value in delimiting species since they are so remarkably uniform in shape and size. That this uniformity obtains in such a large number of species, however, renders them of great importance in the group.

The hypothecial disk was first mentioned by Bornet in 1851 under the term "receptaculum" but its significance in taxonomy was first brought out by Spegazzini.

### Explanatory.

The numbers given following the headings "Distribution" and "Citations" refer to the bibliography which will appear in a later article in *Annales Mycologici*. A bibliographic citation followed by an asterisk (\*) indicates that the article illustrates the species in question. Under the heading "Citations" repetitions are not made of articles previously cited for the same species, nor are such general works as the *Sylloge Fungorum*, Beeli's



monograph or that of Gaillard cited unless for some special reason; as for example to refer to illustration.

I am especially fortunate in possessing, or in having had the loan of many types, especially those of Sydow, Spegazzini, Beeli, Doidge as well as many of the older types of Gaillard, Patouillard and Berkeley, given or loaned to me through the courtesy of the Museum D'Histoire Naturelle at Paris and of the Royal Botanic Gardens at Kew (1).

Whenever reference is made to the type specimen, it is to be understood as meaning part of the type bearing the original label or labeled "type" by the person or institution that kindly furnished it.

In the citation of specimens I mention only those that I have examined and have also omitted reference to my own collections in Porto Rico, Hawaii, Costa Rica, Panama, British Guiana, Trinidad, Peru, and Equador.

The distribution and hosts are given on the authority of the authors cited in these connections. A complete host index will be supplied with the concluding article.

The Beeli formulae are used in this article with definitions differing slightly from those of Beeli, Spegazzini and others and from my earlier articles. These changes have been introduced in the interest of accuracy and lead to slight modifications of some of the formulae hitherto presented. The usage in the present article is as follows:

I. Main characters (numbers at left of period):

(1) Spores

- 1 . . 2-septate
- 2 . . 3-septate
- 3 . . 4-septate
- 4 . . 5-septate.

(2) Perithecia

- 1 . . With no setae or vermiform appendages
- 2 . . Bearing thick, cutinized, vermiform appendages
- 3 . . Bearing uncinatate or spiraled setae
- 4 . . Bearing setae, not uncinatate or spiraled.

(3) Mycelial or discal setae

- 0 . . Absent
- 1 . . Simple, entire, straight or nearly so; not uncinatate
- 2 . . Simple, entire, but uncinatate
- 3 . . Dentate, notched or forked a short distance  
(teeth less than 40  $\mu$  long)
- 4 . . Branches subdivided or of over 40  $\mu$  in length.

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(1) I desire especially to acknowledge my indebtedness to Dr. H. Sydow not only for the very numerous specimens he has loaned or secured for me but also for making many comparisons of specimens and expressing to me the conclusions of his critical judgment.

## (4) Capitate hyphopodia

- 1 . . Alternate or unilateral
- 2 . . Opposite
- 3 . . Both alternate and opposite.

## II. Measurements (numbers on right of period):

## (5) Spore length

- 1 . . 20  $\mu$  long, or less
- 2 . . 30  $\mu$  long, or less
- 3 . . 40  $\mu$  long, or less
- 4 . . 50  $\mu$  long, or less
- 5 . . 60  $\mu$  long, or less
- 6 . . over 60  $\mu$  long.

## (6) Spore breadth

- 1 . . 10  $\mu$  or less
- 2 . . 20  $\mu$  or less
- 3 . . 30  $\mu$  or less
- 4 . . more than 30  $\mu$ .

## (7) Perithecium (diameter)

- 1 . . 100  $\mu$  or less
- 2 . . 200  $\mu$  or less
- 3 . . 300  $\mu$  or less
- 4 . . over 300  $\mu$ .

## (8) Mycelial setae (length)

- 0 . . absent
- 1 . . 300  $\mu$  or less
- 2 . . 500  $\mu$  or less
- 3 . . 1000  $\mu$  or less
- 4 . . more than 1000  $\mu$ .

For a species with a variable character, e. g. setae simple or dentate, the fractional form is used, as 1/3. In the case of the second digit "1" indicates the absence of setae and larviform appendages, but the perithecium may be roughened by rounded or conic prominences. The only difficulty in application of this digit is in the few cases where the conic prominences approach the character of vermiform.

Sometimes the question of the basal perithecial setae presents difficulty. Basal setae are often described, or setae "grouped around the perithecium." Unless there is absolute evidence in the description, as for example such expression as "setae from the lower third of the perithecium", or evidence from examination of actual specimens, that the setae do arise from the perithecium, not from the hypothecial disk, I regard them as from the disk or subiculum and class them as mycelial setae, not as perithecial setae. Since on this distinction hinges the generic status, it is probable that further study of actual specimens may lead to a transfer from one genus to the other in some cases. In the use of the four digits showing size



I have recognized the greatest size given, not the average. Thus, for a spore 22—31  $\mu$  the fifth digit becomes 3; for setae 90—305  $\mu$  the last digit becomes 2. Measurements less than the maximum for perithecial diameter are of little or no significance since undersized perithecia may really be only undeveloped.

A method of examination that has been found to be very helpful with colonies so strongly adherent that they could not be removed by the usual celloidin method (262) is to boil the leaf for a few moments in dilute potash, wash and dry under pressure between filter papers, then mount by the usual celloidin method.

Another useful procedure is to place the host leaf in dilute acid with a few crystals of potassium chlorate, leave overnight, then dry and mount with celloidin as above described. This treatment bleaches all parts to a considerable extent and thus makes study of the morphology more definite.

In the keys and group numbers those characters are indicated that were found to be most common on examination of type material or other specimens presumably reliable or were designated in the original description. Variation from these, of course, occurs but could not be provided for in the keys or formulae.

Varying conception of the significance of the group number, differences in observation or in material, perhaps representing actual variation in the fungus, has given rise to various characterization for supposedly the same species as is shown by the following example:

*M. malacotricha* 3113. 3231 Doidge  
3112. 3231 Gaillard  
3112. 3222 Spegazzini  
3113. 3221 Beeli.

Abbreviations used in the keys are: s. = setae, ch. = capitate hyphopodia, hc. = head cell, col. = colony, peri. = perithecium, app. = appendages br. = branch, myc. = mycelium.

### Taxonomic.

When two or more species that show very marked resemblances, appearing to indicate close genetic relationship, are described on members of the same host, I recognize only one as of specific rank and reduce the others to varieties. Similar procedure is followed even though the species are not on members of the same host family when the evidence of relationship seems to be beyond question. Such relationship is sometimes indicated by one set of characters, sometimes by others. Thus in the Meliolas on the Convolvulaceae it is in the pale mycelium and the shape of the hyphopodia; on the Bignoniaceae it is in the setal tips. *M. bicornis* with its numerous variations shows relationship in both mycelium and setae.

Since the group of more than forty species devoid of mycelial setae but possessing true setae, not vermiform in character, upon the perithecium is well defined I erect for it the new genus *Irenopsis*.



**Irenopsis** n. gen.

Characters of *Irene* except that true setae not vermiform appendages are borne on the perithecium; characters of *Meliola* except that mycelial setae are absent and perithecial setae are present; type of the genus *Meliola tortuosa* Winter which becomes *Irenopsis tortuosa* (Winter) n. comb.

It appears desirable and proper to distinguish as separate genera the non-setose *Meliolas* that bear larviform perithecial appendages as was suggested by v. Höhnelt, but since the genus *Irene* was originally described as a *Meliola* without setae and the type designated was *M. inermis*, which has larviform appendages, the forms with larviform appendages must bear the name *Irene*, not *Appendiculella* as proposed by v. Höhnelt.

For those forms that have no mycelial setae, no perithecial setae and no larviform appendages I propose the new genus **Irenina** with *M. glabra* Berkeley and Curtis as the type, which becomes *Irenina glabra* (Berkeley & Curtis) n. comb. The species described as having 8-spored asci I leave for later consideration.

The genera of the *Meliolineae* may be distinguished by the following key:

**Key to Genera of the Meliolineae.**

Perithecium typically dimidiate at maturity

No free mycelium . . . . . *Actinodothis* No. 1, p. 411.

Free mycelium present . . . . . *Amazonia* No. 2, p. 412.

Perithecia globose, not dimidiate, at maturity

Mycelium devoid (or nearly so) of typical

capitate hyphopodia . . . . . *Meliolina* No. 3, p. 415.

Mycelium with typical capitate hyphopodia

Mycelium devoid of setae

Perithecium bearing larviform appendages. *Irene* No. 4, p. 420.

Perithecium with no larviform appendages

but with true setae . . . . . *Irenopsis* No. 5, p. 429.

Perithecium with no setae or larviform

appendages . . . . . *Irenina* No. 6, p. 442.

Mycelium with setae . . . . . *Meliola* No. 7(1).

Genus No. 1. **Actinodothis** Sydow, H. & P., Philippine Jour. Sci. C. Bot. 9: 174. 1914.

Stromata superficial, circular, radiate, several layers thick; loculi 1 to several, separate; attachments to the substratum several. Hypostroma tenuous, asci paraphysate, 2-spored. Spores dark, 3—4-septate.

Type species *A. piperis*, on Piper.

This genus is by Theissen and Sydow (325) placed in the *Dothideales*, but its relationship to the *Meliolas* is clearly evidenced in its spore character and mycelium. The complexity of the stroma and the paucity of hyphopodia mark is as quite distinct from *Amazonia*.

(1) To be treated in a later article in this journal.

Key to the species of *Actinodothis*.

Spores 3-septate

2101. 4240, on Celastraceae . . . . . *perrottetiae* No. 1.

Spores 3—4-septate

2/3101. 3230, on Piperaceae . . . . . *piperis* No. 2.

Spores 4-septate

3100. 6340, crustose, on Myrsinaceae . . . . . *suttoniae* No. 3.No. 1. *Actinodothis perrottetiae* Stevens, Bish. Mus. Bul. **19**: 51. 1925.On Celastraceae: *Perrottetia*.Type locality: Oahu, Hawaiian Islands, Stevens *717*.

Citation: 264\*.

No. 2. *Actinodothis piperis* Sydow H. & P., Philippine Jour. Sci. C. Bot.**9**: 175. 1914.On Piperaceae: *Piper*.Type locality: Palawan, Philippines, Merrill *8819*.Specimen: Phil. Bur. Sci. *23925*.

Citations: 325, 297\*.

No. 3. *Actinodothis suttoniae* Stevens, Bish. Mus. Bul. **19**: 51. 1926.On Myrsinaceae: *Suttonia*.Type locality: Oahu, Hawaiian Islands, Stevens *143*.

Citations: 264\*.

Genus No. 2. *Amazonia* Theißen, Annal. Mycol. **11**: 499. 1913.*Meliolaster* Doidge, Tran. Roy. Soc. So. Africa **8**: 123. 1920 (not *Meliolaster* v. Höhnelt).

The original description of *Amazonia* places the genus as a section of the *Microthyriaceae* and characterizes it as with hyphopodiate mycelium, asci paraphysate, basal, 2-spored; spores brown, several septate.

The characterization by Theißen is as follows:

Mycelium superficial, hyphopodiate, *Meliola*-like. Peritheciium radial, shield-formed, circular, inverse. Asci clavate, paraphysate, 2-spored; spores 5-celled.

The type species is *Meliola asterinoides* Winter var. *psychotriac* P. Henn. = *M. asterinoides* Winter. Höhnelt has shown (113) that in this genus under the shield like cover a completely closed peritheciium exists, pale and thin-walled, and properly regards this as a transition genus between *Meliola* and the *Microthyriaceae*.

Conspectus of *Amazonia*.

No setae present

Spores 3-septate

2101. 4220, hc. several-lobed, on Celastraceae . *perrottetiae* No. 1.

Spores 4-septate

ch. alternate or opposite

3103. 4220, hc. oval to cylindric, often

angular, not crowded, on Anacardiaceae . *anacardiacearum* No. 2.

ch. opposite

3102. 3220, hc. sub-globose, densely crowded,  
on Euphorbiaceae . . . . . *acalyphae* No. 3.

ch. alternate

3101. 5340, hc. cylindric or clavate, on  
Lauraceae . . . . . *philippinensis* No. 4.  
3101. 4230, hc. globose, many, myc. crooked,  
spores 34—41  $\mu$ , on Myrsinaceae . . . *peregrina* No. 5.  
3101. 4220, hc. ovate, oblong, or pyriform,  
many, spores 43—47  $\mu$ , myc. straight, on  
Myrtaceae . . . . . *ohianus* No. 6.  
3101. 3240, hc. ovoid or globose, on  
Piperaceae . . . . . *asterinoides* No. 7.  
3101. 4220, hc. clavate or lobed, on Apo-  
cynaceae . . . . . *goniomae* No. 8.

Setae present

ch. opposite or alternate

3133. 3232, setae 200—500  $\mu$ , on Rutaceae . *butleri* No. 9.

ch. alternate

3111. 6223, hc. ovoid, elliptic, cylindric or  
irregular, setae obtuse, 800  $\mu$ , on Guttif-  
erae . . . . . *clusiae* No. 10.

No. 1. **Amazonia perrottetiae** Stevens, Bish. Mus. Bul. 19: 47. 1925.

On Celastraceae: Perrottetia.

Type locality: Oahu, Hawaiian Islands, Stevens 717a.

Citation: 264\*.

No. 2. **Amazonia anacardiacearum** n. sp.

Colony epiphyllous, circular, often irregularly so, 1.5—5 mm. in diameter, black, sometimes coalescing. Mycelium when young forms a loose network of threads adherent to the host surface: closely netted when older. Branching opposite or alternate, mycelial diameter 7.6  $\mu$ , mostly straight. Capitulate hyphopodia opposite, sometimes alternate, not crowded, about 15  $\mu$  apart. Stalk cell short, 3  $\mu$ ; head cell oval to cylindrical, often angular or somewhat bent, about 11  $\cong$  9  $\mu$ . Mucronate hyphopodia chiefly opposite, about 22  $\mu$  long.

Perithecial setae none. Mycelial setae none. Perithecia dimidiate, radiate, slightly rough, dark brown or blackish, about 118—150  $\mu$ , in diameter. Asci evanescent. Spores 4-septate, constricted somewhat, length 45  $\mu$ , width 19  $\mu$ .

Group number 3103. 4220. — Fig. 1.

On Anacardiaceae: Tapirira?, British Guiana, Wismar, July 14, 1922. 277.

No. 3. **Amazonia acalyphae** (Rehm) Theissen, Annal. Mycol. 14: 407. 1916.

*Meliola acalyphae* Rehm, Philippine Jour. Sci., C. Bot. 8: 252. 1913.

On Euphorbiaceae: Acalypha.



Type locality: Luzon, Philippines, Baker 483.

Citations: 200, 4, 2.

Specimen: Phil. Bur. Sci. 483.

No. 4. *Amazonia philippinensis* Theißen, Brot. 12: 78. 1914.

On Lauraceae: Ullolitsea.

Type locality: Los Baños, Philippines.

No. 5. *Amazonia peregrina* (Sydow, H. & P.) Sydow, H. & P., Annal. Mycol. 15: 238. 1917.

*Meliola peregrina* Sydow, H. & P., Philippine Jour. Sci. C. Bot. 8: 479. 1913.

On Myrsinaceae: Maesa.

Type locality: Luzon, Philippines. Bur. Sci. McGregor 20255.

Citations: 5, 2.

Specimen: the type. Fig. 2.

No. 6. *Amazonia ohianus* Stevens, Bish. Mus. Bul. 19: 50. 1925.

On Myrtaceae: Metrosideros.

Type locality: Hawaii, Stevens 842.

Citation: 264\*.

No. 7. *Amazonia asterinoides* (Winter) Theißen, Annal. Mycol. 11: 499. 1913.

*Meliola asterinoides* Winter, Hedw. 25: 96. 1886.

*Meliola asterinoides* Winter var. *major* Gaillard. Le Gen. Mel. 58. 1892.

*Meliola asterinoides* Winter var. *psychotriae* Hennings, Hedw. 43: 361. 1904.

*Amazonia psychotriae* (P. Hennings) Theißen, Annal. Mycol. 11: 499. 1913.

*Amazonia polypoda* Sydow, H. & P., Annal. Mycol. 15: 145. 1917.

*Meliolaster mackenzii* Doidge, Trans. Roy. Soc. So. Africa 8: 123. 1920.

On Piperaceae: 349, 348, 83, Piper 22, 313, Artanthes 313. On Loganiaceae: Labordea 264. On Goodeniaceae: Scaevola 264. On Apocynaceae: Alyxia 264. On Euphorbiaceae: Euphorbia 264. On Thymelaeaceae: Wikstroemia 264, Daphnopsis 313. On Campanulaceae: Clermontia 264. On Compositae: 184, 313. On Labiatae: Hyptis, 184, 313. On Myrtaceae: Eugenia, 313. On Rubiaceae: 349, Psychotria 313, 354, Genipa 309, Webera 2, 307, 101, Coprosma 264, Straussia 264, Canthium 8.

Type locality: St. Thomas, Africa, on Piper.

Distribution: St. Thomas, Africa, 348, 349, 22, 83, 313; Congo 313, 354; So. Africa, 50; Brazil, 184, 101, 313; Amazon, 313, 354; Guadeloupe 2, 313; Hawaii 264; Porto Rico, 309; India 2, 313, 307.

Citations: 319\*, 348\*, 83\*, 309\*, 326, 2\*, 109, 8\*, 264\*.

Specimen: Ule, Myc. Bras. 55.

Arnaud (2) regards this and *Actinodothis piperis* as identical.

The large number of very dissimilar host families recorded for this species suggests that closer study would probably show it to be composed of several distinct species.

No. 8. *Amazonia goniomae* Doidge, Bothalia 1: 204. 1924.

On Apocynaceae: Gonioma.

Type locality: Knysna District, South Africa, Doidge 17209.

No. 9. **Amazonia butleri** (Sydow, H. & P.) n. comb.

*Meliola butleri* Sydow, H. & P. in Annal. Mycol. 9: 379. 1911.

On Rutaceae: Citrus.

Type locality: India, Butler No. 1042.

Citations: 307\*, 8, 267.

No. 10. **Amazonia clusiae** (Stevens) n. comb.

*Meliola clusiae* Stevens, Ill. Biol. Mono. 2: 52. 1916.

On Guttiferae: Clusia.

Type locality: Porto Rico, Stevens 8283.

Genus No. 3. **Meliolina** Sydow, H. & P., Annal. Mycol. 12: 553. 1914.

The distinctive characters of this genus are those of the *Meliolineae* without capitate hyphopodia and with or without setae and with 2 to 8-spored asci. The species selected as the type by Sydow was *M. cladotricha* Lév. on Myrsine, Höhnelt (116) however, raises the point that it is uncertain what *M. cladotricha* Lév. really is and that therefore this species cannot be cited as the generic type, and he suggests as a substitute for the generic type *M. mollis* Berk. & Br. This species also, however, appears to be of questionable characters.

While the absence of typical capitate hyphopodia is regarded as a really distinctive character of the genus this character cannot be adhered to with absolute rigidity without excluding species which by their general character and habit clearly belong in the genus. A few species are with hyphopodia rare, but without the general character of a *Meliolina*; these evidently are transition forms between *Meliola* and *Meliolina*. The genus as here presented is perhaps somewhat heterogenous, and study of more types is needed to make the arrangement more nearly final.

### Conspectus of Meliolina.

#### No setae present

- |  |                        |        |
|--|------------------------|--------|
| 4100. 41?0, spores fusiform, on <i>Meliola</i> . . . | <i>paullinae</i>       | No. 1. |
| 4100. 4230, spores clavate, on <i>Irene</i> . . .    | <i>irenicola</i>       | No. 2. |
| 3100. 6440, on Santalaceae . . . . .                 | <i>megalospora</i>     | No. 3. |
| 2100. 4230, perithecia lenticular, on edge, on       |                        |        |
| <i>Meliola</i> . . . . .                             | <i>meliolae</i>        | No. 4. |
| 2100. 2110, perithecia globose, on unknown host.     | <i>fuscopulveracea</i> | No. 5. |

#### Setae present

##### Spores 5-septate

- |   |   |        |
|---|---|--------|
| 4110. 3121, s. 150—180, obtuse, sub-tortuose, |   |        |
| on Myrsinaceae . . . . .                      | <i>quercinopsis</i>                         | No. 6. |
| 4110. 6221, on Lythraceae . . .               | <i>quercinopsis</i> var. <i>megalospora</i> | No. 7. |

##### Spores 4-septate

- |   |                       |        |
|---|-----------------------|--------|
| 3110. 42?1, on Lauraceae . . . . .      | <i>philippinensis</i> | No. 8. |
| 311/20. 6243, on unknown host . . . . . | <i>orbicularis</i>    | No. 9. |

## Spores 3-septate

## Perithecia setose

2440. 5242, violet tinted, s. 400  $\mu$ , 3—4  
dichot, on Myrtaceae . . . . . *octospora* No. 10.  
2440. 5242, not violet tinted, producing a  
diseased spot, on Myrtaceae . . . . . *sydowiana* No. 11.  
2440. 6242, not producing a diseased spot,  
s. 500  $\mu$ , 5—9 dichotomous, on Myrtaceae . *mollis* No. 12.  
2410. 4233, s. 300—350  $\mu$ , on Dilleniaceae . *malacensis* No. 13.

## Perithecia not setose

## Mycelial setae branched

2140. 5232, colony strongly radiate, on  
Myrtaceae . . . . . *radians* No. 14.  
2140. 5242, on Myrtaceae . . . . . *pulcherrima* No. 15.  
2140. 5342, on Myrtaceae . . . . . *arborescens* No. 16.  
2140. 6342, on Myrsinaceae . . . . . *cladotricha* No. 17.

## Mycelial setae simple

2110. 5221, on Myrtaceae . . . . . *haplochaeta* No. 18.  
2110. 3121, on Meliola on Palmae . . . *iquitosensis* No. 19.

No. 1. *Meliolina paullinae* (Stevens) n. comb.

*Perisporium paullinae* Stevens, Bot. Gaz. 65: 228. 1918.

On Meliola sapindacearum on Paullinia pinnata.

Type locality: Porto Rico, Stevens 1207.

Citation: 263a\*.

No. 2. *Meliolina irenicola* (Doidge) n. comb.

*Perisporium irenicolum* Doidge, Both. 1: 209. 1923.

On Irene peglerae on Halleria.

Type locality: Natal, South Africa, Doidge 17201.

No. 3. *Meliolina megalospora* (Spegazzini) n. comb.

*Meliola megalospora* Spegazzini, An. Soc. Cient. Argentina 22: 115. 1881.

*Irene megalospora* (Spegazzini) Theißen & Sydow, Annal. Mycol. 15: 461.

1917.

On Santalaceae: Jodina.

Type locality: Cape San Antonio, Argentina.

Distribution; Argentine, 235, 255, 83; Patagonia 239.

Citation: 263\*.

Specimen: the type.

Spegazzini's original diagnosis apparently describes conidiophores as setae.

No. 4. *Meliolina meliolae* (Stevens) n. comb.

*Perisporium meliolae* Stevens, Bot. Gaz. 65: 228. 1918.

On Irene sororcula var. portoricensis on Eupatorium portoricense.

Type locality: Porto Rico, Stevens 6032.

Citation: 263a\*.



The transfer of these three species of *Perisporium*, all associated with *Meliola* colonies, possibly parasitic upon them, to *Meliolina* may be questioned, though on morphological grounds they clearly belong there.

No. 5. *Meliolina fuscopulveracea* (Rehm) n. comb.

*Meliola fuscopulveracea* Rehm, Hedw. **40**: 162. 1901.

On unknown host.

Type locality: Brazil, Ule No 1870.

Citation: 116.

No. 6. *Meliolina quercinopsis* (Rehm) n. comb.

*Meliolinopsis quercinopsis* (Rehm) Beeli, Bull. Jard. Bot., Bruxelles **7**: 120. 1920.

*Meliola quercinopsis* Rehm, Hedw. **40**: 166. 1901.

On Myrsinaceae: Myrsine.

Type locality; Brazil, Ule 93.

This species appears to be very questionable due to confounding the *Meliola* with its parasite. It may in reality be a parasitic *Meliolina* growing upon a *Meliola*.

No. 7. *Meliolina quercinopsis* (Rehm) Stevens var. *megalospora* (Rehm) n. comb.

*Meliolinopsis megalospora* (Rehm) Beeli, Bull. Jard. Bot., Bruxelles **7**: 159. 1920.

*Meliola quercinopsis* Rehm var. *megalospora* Rehm. Ascom. Fasc. 46 and in Annal. Mycol. **8**: 303. 1910.

On Lythraceae: Lythraea.

Type locality: Brazil.

Citation: 313.

No. 8. *Meliolina philippinensis* n. sp.

Colonies hypophyllous, thin, diffuse, indefinite, 1—3 cm. across or covering the leaf. Mycelium crooked, thin, 3—4  $\mu$ . Spot none. Hyphopodia none. Perithecial setae none. Mycelial setae —270  $\mu$ , acute, straight, simple. Perithecia globose, smooth, —125  $\mu$  in diameter. Asci evanescent. Spores 4-septate, 43-47  $\approx$  11—14  $\mu$ .

Group number 3110. 2421. — Fig. 3.

On Lauraceae, *Cryptocarya* sp., Philippine Bur. Sci. 24720, Ramos, Catubig River, Samar, Feb.-March, 1916.

A very few structures which might be interpreted as capitate hyphopodia were seen, but they were so few and so abnormal that I do not so regard them.

No. 9. *Meliolina orbicularis* (Berkeley & Cooke) n. comb.

*Meliola orbicularis* Berkeley & Cooke, Journ. Linn. Soc., London **10**: 392. 1869.

On unknown host.

Type locality: Cuba 557.

Distribution: Cuba 254; Australia 31.

Citations: 83\*, 31.

Specimen: Cuban Fungi 880.

The length of the setae and the diameter of the perithecia as given by Spegazzini are greater than those given by Gaillard.

No. 10. *Meliolina octospora* (Cooke) Höhnelt, Sitzber. K. Akad. Wiss. Vienna, Math.-naturw. Kl. **128**: 557. 1919.

*Meliola octospora* Cooke, Grev. **11**: 38. 1882.

*Meliolinopsis octospora* (Cooke) Beeli, Bull. Jard. Bot., Bruxelles **7**: 119. 1920.

On Myrtaceae.

Type locality: Island of Mauritius, Africa.

Distribution: Mauritius 36, 83; Java 171; Australia 31.

Citations: 171\*, 107, 31.

There is some doubt as to the identity of this form with Cooke's species though there is no doubt that it is the same as the form so reported by Penzig and Saccardo. Höhnelt holds that *M. octospora* is identical with *Meliolina yatesii* and perhaps with *M. arborescens*.

No. 11. *Meliolina sydowiana* Stevens, Bish. Mus. Bul. **19**: 46. 1925.

On Myrtaceae: *Metrosideros*.

Type locality: Oahu, Hawaiian Islands, Stevens 721.

Citation: 264\*.

No. 12. *Meliolina mollis* (Berkeley & Broome) Höhnelt, Sitzber. K. Akad. Wiss. (Vienna), Math.-naturw. Kl. **128**: 557. 1919.

*Meliola mollis* Berkeley & Broome, Jour. Linn. Soc., London **14**: 136. 1875.

*Dimerosporium molle* (Berkeley & Broome) Saccardo, Syll. Fung. **1**: 53. 1882.

*Meliola mollis* (Berkeley & Broome) em. Höhnelt, Sitzber. K. Akad. Wiss., (Vienna) Math.-naturw. Kl. **119**: 461. 1910.

On Myrtaceae: *Syzygium*.

Type locality: Ceylon.

Distribution: India 14; Australia 31.

Citations: 14\*, 15, 116. 108.

This species is cited by v. Höhnelt as the type of the genus.

He says that it is precisely like *M. pulcherrima* but for *M. mollis* he says "außen ziemlich dicht . . . mit Haaren bedeckt". While for *M. pulcherrima* Sydow says ". . . basi hyphis plerumque . . . cinctis".

No. 13. *Meliolina malacensis* (Saccardo) n. comb.

*Meliola malacensis* Saccardo, Bul. Orto Bot. Univ. Napoli **6**: 43. 1921.

On Dilleniaceae: *Wormia*.

Type locality: Singapore.

Specimen: Baker, Fungi Mal. 451.

No. 14. *Meliolina radians* Sydow, H. & P., Annal. Mycol. **12**: 553. 1914.

On Myrtaceae: *Eugenia*.

Type locality: Luzon, Philippines, Bur. Sci. 17383.

Citation: 116.

Specimen: the type.

No. 15. *Meliolina pulcherrima* (Sydow, H. & P.) Sydow, H. & P., Annal. Mycol. 12: 553. 1914.

*Meliola pulcherrima* Sydow, H. & P., Annal. Mycol. 11: 254. 1913.

On Myrtaceae: *Eugenia* 297, 294, 301, 4, 5, 289.

Type locality: Luzon, Philippines.

Citations: 292, 301, 116, 289\*.

Specimens: Syd., Fung. Exot. Exs. 124., Phil. Bur. Sci. 383.

This was previously reported by error as on *Ficus*.

No. 16. *Meliolina arborescens* (Sydow, H. & P.) Sydow, H. & P., Annal. Mycol. 12: 553. 1914.

*Meliola arborescens* Sydow, H. & P., Annal. Mycol. 11: 256. 1913.

*Meliolina yatesii* Sydow, Annal. Mycol. 15: 195. 1917.

*Meliolinopsis yatesii* (Sydow, H. & P.) Beeli, Bul. Bot. Jard., Bruxelles 7: 119. 1920.

On Myrtaceae: *Eugenia*.

Type locality: Todaya, Philippines, Elmer 11328.

Citations: 296\*, 292, 301, 4, 5, 116, 2.

Specimens: Philippine Bur. Sci. 25122, 25134.

*M. yatesii* was originally described as on *Viburnum*(?) but may indeed have been on one of the Myrtaceae. Being so closely alike I regard *M. arborescens* and *M. yatesii* as identical.

No. 17. *Meliolina cladotricha* (Léveillé) Sydow, H. & P., Annal. Mycol. 12: 553. 1914.

*Meliola cladotricha* Léveillé, Ann. Sc. Nat., Sér. 3, Bot. 5: 266. 1846.

On Myrsinaceae: 131, 20, 19; on Myrtaceae: *Eugenia* 138, 83, 307, 45, *Syzygium* 83, *Melaleuca* 83.

Type locality: Borneo.

Distribution: Borneo 131, 19, 20, 83; New South Wales 138; New Guinea 83, 347; Australia 83, 347; India 307; South Africa 45, 18b.

Citations: 20\*, 138\*, 83\*, 307, 45\*, 107.

Gaillard states that this species has both kinds of hyphopodia though rare. There is disagreement between the figures of Bornet and Gaillard and it is really uncertain what this species is. The 8-spored fungus described by Winter under this name is regarded by v. Höhnelt as *M. mollis*.

No. 18. *Meliolina haplochaeta* Sydow, H. & P., Annal. Mycol. 15: 145. 1917.

*Meliolinopsis haplochaeta* (Sydow, H. & P.) Beeli, Bul. Jard. Bot., Bruxelles 7: 119. 1920.

On Myrtaceae: *Metrosideros*.

Type locality: Oahu, Hawaiian Islands.

Citations: 116, 264\*.

No. 19. *Meliolina iquitosensis* (Hennings) n. comb.

*Meliola iquitosensis* Hennings, Hedw. 43: 361. 1904.

*Meliolinopsis iquitosensis* (Hennings) Beeli, Bul. Jard. Bot., Bruxelles 7: 119. 1920.



On *Meliola* on *Palmae*: *Bactris*.

Type locality: Amazon, Iquitos, Ule 3211.

Citations: 101\*, 102, 3.

Specimen: the type, Ule, Myc. Braz. 58.

The type specimen, very heavily parasitized, from Dahlem clearly shows large, irregular capitate hyphopodia of a *Meliola* on which the *Meliolina* grew.

Genus No. 4. *Irene* Theißen and Sydow, Annal. Mycol. 15: 194. 1917.

*Appendiculella* v. Höhnelt, Sitzber. K. Akad. Wiss. Wien Math.-naturw. Kl. 128: 556. 1919.

The original characterization reads simply "characteres *Meliolae*, sed setae nullae". The type was given as *Irene inermis* (K. & C.) Th. & Syd. The genus *Appendiculella* was proposed by von Höhnelt on the character of the possession of vermiform appendages to the perithecium and the absence of setae, with *A. calostroma* (Desmazières) v. Höhnelt as the type species, he including under this as synonymous, *M. sanguinea*, *M. puiggarii*, *M. rubicola*, *M. manca*, *M. larviformis*, *M. echinus* and *M. cornu-caprae*.

The vermiform appendages though variable in presence, in a few species being even abundant or totally lacking, nevertheless constitute a character that appears to me to be worthy of generic distinction. Since, however, the designated type species of *Irene* possesses these appendages the name *Irene*, on subdivision of the original genus *Irene*, belongs to those forms bearing these appendages.

It is somewhat remarkable that in all the species of *Irene* the capitate hyphopodia are predominantly angular.

### Conspectus of *Irene*.

#### Spores 3-septate

##### Ch. opposite or alternate

2203. 4220, hc. lobed, on Flacourtiaceae . . . . . *natalensis* No. 1.

2203. 4220, spores slightly smaller, ch. remote,  
on Flacourtiaceae . . . . . *natalensis* var. *laxa* No. 2.

2203. 4220, ch. crowded and small, on Flacourtiaceae . . . . . *natalensis* var. *conferta* No. 3.

##### Ch. alternate

2201. 5330, hc. irregular-angular, appendages  
15—50  $\mu$ , on Rhamnaceae . . . . . *splendens* No. 4.

2201. 6330, hc. irregular to lobed, appendages  
70—90  $\mu$ , mycelial cells about 18  $\mu$  long, on  
Celastraceae . . . . . *speciosa* No. 5.

2201. 4240, hc. irregular, sub-lobed, appendages  
65—80  $\mu$ , mycelial cells 30—50  $\mu$  long, on  
Celastraceae . . . . . *gloriosa* No. 6.

2201. 4220, hc. globose, angular, appendages  
100—130  $\mu$ , on Rosaceae . . . . . *calostroma* No. 7.

## Spores 4-septate

Appendages 60  $\mu$  +

3201. 5220, hc. globose to angular, appendages  
80—100  $\mu$ , on Compositae . . . . . *sororcula* No. 8.
3201. 3220, hc. sub-globose, regular, appendages  
60  $\mu$ , on Compositae . . . . . *sororcula* var. *vernoniae* No. 9.
3201. 4220, hc. irregular, lobed, appendages  
6—12, 80—100  $\mu$ , on Compositae . *sororcula* var. *portoricensis* No. 10.
3201. 4220, hc. sub-ovate, appendages 60—100  $\mu$ ,  
peri. 140—170  $\mu$ , on Euphorbiaceae . . . . . *larviformis* No. 11.
3201. 5220, hc. ovate, cuneate or irregular, appen-  
dages 85  $\mu$ , on Euphorbiaceae . *larviformis* var. *arecibensis* No. 12.
- 320?. 4230, hc. globose or ovate, angular, appen-  
dages 80—150  $\mu$ , on unknown host. . . . . *rimbachii* No. 13.
3201. 4230, hc. pyriform or angular, appendages  
80—80  $\mu$ , peri. 200—230  $\mu$ , on Araliaceae . . *araliae* No. 13a.
3201. 5330, colony crustose, hc. ovate, clavate,  
appendages 85—150  $\mu$ , peri. 300  $\mu$ , on Euphor-  
biaceae . . . . . *cornu-caprae* No. 14.
3201. 5220, appendages numerous, 100—200  $\mu$ ,  
on Moraceae . . . . . *echinus* No. 15.

Appendages 60  $\mu$  —

3201. 4220, hc. globose, few, often long-pedi-  
celled, appendages merely high conic warts,  
on Moraceae . . . . . *tonkinensis* No. 16.
3201. 4220, hc. sub-globose, not rare, appendages  
variable, 36  $\mu$ , on Moraceae . . . *tonkinensis* var. *cecropiae* No. 17.
3201. 3220, hc. obovoid, often bent, appendages  
30—40  $\mu$ , colonies sub-crustose, on Scrophu-  
lariaceae . . . . . *peglerae* No. 18.
3201. 5240, hc. pyriform, appendages 35  $\mu$ , conic,  
on Solanaceae . . . . . *winteri* No. 19.
3201. 5240, appendages short to conic, on Solana-  
ceae . . . . . *winteri* var. *hyphopodiigera* No. 20.
3201. 4230, hc. irregular or lobed, appendages  
35—50  $\mu$ , on Solanaceae . . . . . *adelphica* No. 21.
3201. 4320, hc. pyriform, slightly irregular, often  
lobed, appendages 35  $\mu$ , on Dilleniaceae . . *papillifera* No. 22.
3201. 4230, hc. ovoid, pyriform, angular or irre-  
gular, appendages 51  $\mu$ , on Guttiferae . . . *calophylli* No. 23.
3201. 3220, hc. ovoid or irregular, appendages  
51  $\mu$ , on unknown host . . . . . *tuberculata* No. 24.
3201. 3230, hc. globose or lobed, appendages  
50  $\mu$ , on Loganiaceae . . . . . *inermis* No. 25.

3201. 3230, hc. round or lobed, appendages 50  $\mu$ ,  
 on Loganiaceae . . . . . *inermis* var. *macilenta* No. 26.  
 3201. 5220, hc. round or lobed, appendages 50  $\mu$ ,  
 on unknown host . . . . . *echinata* No. 27.

No. 1. **Irene natalensis** (Doidge) Doidge, So. African Jour. Nat. Hist. 2: 40. 1920.

*Meliola natalensis* Doidge, Trans. Roy. Soc. So. Africa 5: 724. 1917.

On Flacourtiaceae: Dovyalis.

Type locality: Natal, South Africa, Doidge 8980.

Citations: 51, 45\*, 55\*.

Specimens: Doidge 8980 (co-type).

No. 2. **Irene natalensis** (Doidge) Doidge var. **laxa** (Doidge) n. comb.

*Meliola natalensis* Doidge var. *laxa* Doidge, Trans. Roy. Soc. So. Africa

8: 141. 1920.

On Flacourtiaceae: Dovyalis.

Type locality: Natal, South Africa, Doidge 11608.

Citation: 51\*.

No. 3. **Irene natalensis** (Doidge) Doidge var. **conferta** (Doidge) n. comb.

*Meliola conferta* Doidge, Trans. Roy. Soc. So. Africa 5: 724. 1917.

*Meliola natalensis* Doidge var. *conferta* Doidge, Trans. Roy. Soc. So. Africa

8: 141. 1920.

On Flacourtiaceae: Dovyalis.

Type locality: Natal, South Africa, Wood 345.

Citations: 51, 45\*.

Previously reported as *M. Sapindacearum* (278).

No. 4. **Irene splendens** Stevens, Bish. Mus. Bul. 19: 41. 1925.

On Rhamnaceae: Alphonsonia.

Type locality: Kauai, Hawaiian Islands, Stevens 430.

Citation: 264\*.

No. 5. **Irene speciosa** (Doidge) Doidge, So. African Jour. Nat. Hist. 2: 40. 1920.

*Meliola speciosa* Doidge, Trans. Roy. Soc. So. Africa 5: 726. 1917.

On Celastraceae: Gymnosporia.

Type locality: Natal, South Africa, Doidge 1740.

Citations: 53, 45\*, 18b.

Specimen: the type.

No. 6. **Irene gloriosa** (Doidge) Doidge, So. African Jour. Nat. Hist. 2: 40. 1920.

*Meliola gloriosa* Doidge, Trans. Roy. Soc. So. Africa 8: 139. 1920.

On Celastraceae: Celastrus.

Type locality: Natal, South Africa, Doidge 11565.

Citations: 51\*, 53.

Specimen: the type.

No. 7. *Irene calostroma* (Desmazières) v. Höhnelt, Annal. Mycol. **16**: 213. 1918.

*Sphaeria calostroma* Desmazières. Bul. Soc. Bot. France, **4**: 1011. 1857.

*Chaetosphaeria calostroma* (Desmazières) Saccardo, Syll. **2**: 95. 1883.

*Meliola puiggarii* Spegazzini, Bol. Acad. Nac. Cien. Cordoba **11**, No. 228. 1889.

*Meliola autumnalis* Sydow, Annal. Mycol. **2**: 169. 1904.

*Meliola rubicola* Hennings, Hedw. **43**: 140. 1904.

*Meliola calostroma* (Desmazières) v. Höhnelt, Annal. Mycol. **15**: 363. 1917.

*Appendiculella calostroma* (Desmazières) v. Höhnelt, Sitzber. K. Akad. Wiss. Wien Math.-natur. Kl. **128**: 556. 1919.

*Irene puiggarii* (Spegazzini) Doidge, So. African Jour. Nat. Hist. **2**: 39. 1920.

On Rosaceae: *Rubus* 44, 83, 242, 245, 46, 261, 264, *Pygeum* 46, *Leucosidea* 46, *Cliffortia* 46, 55, *Geum* 279. On Leguminosae 9. On Rubiaceae 9.

Type locality: France, on Rosaceae.

Distribution: United States 83; Brazil 83; 242, 245; Japan 282, 100, 114; Porto Rico 261; Chile 279; Hawaii 264; Africa 46, 53, 18b.

Citations: 115, 110, 261\*, 264\*, 263\*, 153, 55\*, 331.

Specimens: types of *M. autumnalis* and *M. puiggarii*, Desm. Exs. No. 368, Doidge 1574, Rehm, Ascom. 2132, Union of So. Africa, 1544. 1771.

New records: On *Rubus*. Costa Rica, Cartago, June 23, 1923, 103; Peralta, July 12, 1923. 339.

*M. autumnalis* shows such slight differences from *M. puiggarii* that I place them both under the same species as above.

Species numbers 4, 5, 6, 7, are closely related and may well be of common ancestry.

*M. manca*, *M. sanguinea* and *M. puiggarii* were stated by Gaillard to be identical, while von Höhnelt included also *M. calostroma* and *M. rubicola*. As I have stated elsewhere (261) *M. manca* is really distinct from these.

No. 8. *Irene sororcula* (Spegazzini) n. comb.

*Meliola sororcula* Spegazzini, Bol. Acad. Nac. Cien., Cordoba, **11**: No. 230. 1889.

*Meliola compositarum* Earle, Bul. N. Y. Bot. Gard. **3**: 306. 1905.

*Appendiculella compositarum* (Earle) Toro, Mycol. **17**: 144. 1925.

On Compositae: *Baccharis* 242, 83, *Willoughbya* 58, *Eupatorium* 58, 261, *Bidens* 277a. *Mikania* 331a, *Osmia* 331a. On Loganiaceae: *Buddleia* 58. On Apocynaceae: 9. On Dilleniaceae: 184.

Type locality: Brazil, No. 2774, on Compositae.

Distribution: Brazil 174, 242, 83, 184; Porto Rico 58, 261; Jamaica 58; Costa Rica 277a; Santo Domingo 331a.

Citations: 263\*, 261\*, 331\*.

Specimens: the type, *M. compositarum* Heller, 6185, co-type. Rab., Wint. & Pazsch. Fung. europ. 3543.



No essential difference is apparent between the descriptions of the species united above. Examination of authentic material shows no essential differences. This species is very like *I. inermis* and possibly identical with it.

New records: — On Campanulaceae: *Rollandia argentia*. British Guiana, Tumatumari, July 8, 1922, 55a. On *Rollandia fruticosa*. British Guiana, Tumatumari, July 8, 1922, 55. On Compositae: *Eupatorium*. Ecuador, Terecita, Oct. 31, 1924, 183, Barrn'nital, Nov. 17, 1924, 319; British Guiana, Rockstone, July 13, 1922, 261; July 17, 1922, 449; Costa Rica, Siquirres, July 31, 1923, 684; Panama, Tapia, Aug. 15, 1923, 1044. On *Mikania* sp. British Guiana, Rockstone, July 16, 1922, 431; Ecuador, Terecita, Oct. 29, 1924, 73. On *Schistocarpa* sp. Ecuador, Terecita, Oct. 30, 1924, 143.

The specimen on this host showed hyphopodia that were remarkable for their diversity of position, antrorse or retrorse.

On *Calea pittieri*. Panama, France Field, Sept. 2, 1924, 200, Las Cruces trail, Sept. 28, 1924, 893, Ft. Lorenzo trail, Oct. 10, 1924, 1155; Costa Rica, Guapiles, July 18, 1923, 526. On *Liabum* sp. Ecuador, Terecita, Oct. 20, 1924, 53, Oct. 30, 1924, 139, 166, Barrn'nital, Nov. 17, 1924, 323. On Apocynaceae: *Rhabdadenia paludosa*. Panama, Ft. Sherman, Sweetwater, Oct. 6, 1924, 1044. On unknown host. Peru, Hda. Chalhupapukio, Dec. 6, 1924, 147; Panama, Loma Bracho, Sept. 13, 1924, 486; Costa Rica: Port Limon, July, 9, 1923, 819.

In the specimens on *Calea* the mycelium is more lax, sinuous and thin.  $6\ \mu$ , the capitate hyphopodia more distant and longer (the stalk cell sometimes  $36\ \mu$  long) and the perithecia rarely have well developed vermiform appendages; the formula therefore becomes  $3\frac{1}{2}01$ .

The specimen on *Mikania* had a colony of very different aspect, being very minute and dense, the mycelium very crooked, with numerous perithecia clustered in its center.

To previous descriptions of this species should be added that the perithecia are borne on disks, at first entire, later fringed. One of the most distinctive characters of the species is the irregularity in position of the hyphopodia, antrorse, retrorse, or perpendicular. The specimens on *Liabum* differ in having more dense colonies, more crowded hyphopodia, smaller spores,  $32 \approx 10\ \mu$ .

No. 9. *Irene sororcula* (Spegazzini) Stevens var. *vernoniae* n. var.

Group number 3201. 3220. — Fig. 4.

On Compositae: *Vernonia*. Panama, Empire, Oct. 8, 1925, 1132 (type), Summit, Sept. 6, 1924, 308, Sept. 12, 1924, 465, Ft. Lorenzo Trail, Oct. 10, 1924, 1171, Mandingo, Oct. 15, 1924, 1319, Tapia, Aug. 15, 1923, 1047; Costa Rica, Siquirres, July 31, 1923, 706.

This form agrees with the type with the exception that the capitate hyphopodia are smaller,  $11\ \mu$ , sub-globose and regular and the perithecial appendages, instead of tapering toward the apex, enlarge to a swollen tip. The spores are smaller,  $32-36 \approx 11\ \mu$ .

No. 10. *Irene sororcula* (Spegazzini) Stevens var. *portoricensis* (Stevens) n. comb.

*Meliola compositarum* Earle var. *portoricensis* Stevens, Ill. Biol. Mono. 2: 22. 1916.

On Compositae: Eupatorium.

Type locality: Porto Rico, Stevens 4301.

Citation: 261\*.

No. 11. *Irene larviformis* (Hennings) n. comb.

*Meliola larviformis* Hennings, Hedw. 43: 362. 1904.

*Appendiculella larviformis* (Hennings) v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna), Math.-natur. Kl. 128: 556. 1919.

On Euphorbiaceae: Acalypha; on Campanulaceae.

Type locality: Peru, Tarapoto, Ule 3293. On Euphorbiaceae.

Citation: 101\*.

Specimen: Ule 2947.

New records:

On Euphorbiaceae: Acalypha diversifolia. Panama, Ft. Sherman, Sweetwater, Oct. 6, 1924, 1070, Brazos Brook Reservoir, Sept. 22, 1924, 699. On Acalypha sp. Costa Rica, Peralta, July 12, 1923, 366. Squirres, July 31, 1923, 689; Panama, Chagres Mouth, Aug. 23, 1923, 1291.

These specimens agree well with the descriptions by Hennings. A very marked character is the strong parasitism resulting in a dead spot somewhat larger than the colony, visible from both sides of the leaf as browned tissue, this surrounded by a bleached zone 2—3 millimeters in width.

Due to numerous parasites, but few perithecia were found. The parasites are present much more abundantly on the lower than on the upper sides of the leaves.

No. 12. *Irene larviformis* (Hennings) Stevens var. *arecibensis* (Stevens) n. comb.

*Meliola arecibensis* Stevens, Ill. Biol. Mono. 2: 23. 1916.

*Appendiculella arecibensis* (Stevens) Toro, Mycol. 17: 144. 1925.

On Euphorbiaceae: Acalypha.

Type locality: Porto Rico, Stevens 365a.

Citation: 261\*.

New record: on Acalypha, Costa Rica, Peralta, July 11, 1923, 328.

No. 13. *Irene rimbachii* (Patouillard) n. comb.

*Meliola rimbachii* Patouillard, in Patouillard and Lagerheim, Bul. Herb. Boissier 3: 66. 1895.

On unknown host.

Type locality: Ecuador.

No. 13a. *Irene araliae* (Sprengel) H. Sydow n. comb.

*Amphitrichum araliae* Sprengel in Svenska Vetensk. Akad. Handl. 52. 1820.

*Sphaeria amphitricha* var. *B. araliae* Fries, Syst. Myc. 2: 514. 1823.

*Meliola araliae* (Sprengel) Montagne in Ramon de la Sagra Hist. Cuba 327. 1838.

*Meliola amphitricha* Fries var. *araliae arboreae* Bornet, Ann. Sci. Nat. Bot. Sér. 3., 16: 257. 1851.

On Rutaceae: 313, 204. On Sapindaceae: Cupania 204, 313. On Araliaceae: Aralia 256, 313, 142, 147, 83. On Aquifoliaceae: Ilex 163, 84. On Cactaceae: Cactus 184, 313. On Meliaceae: Guarea 313, 204. On Magnoliaceae: Magnolia 332.

Type locality: Porto Rico, on Aralia.

Distribution: Porto Rico 142, 256, 313, 83; Cuba 147; Brazil 166, 184, 313; Paraguay 241; Ecuador 163, 84; So. U. S. A., Mississippi 332.

Citations: 83\*, 20\*.

Specimen: the type (studied by Sydow).

Sydow writes me that Sprengel's type specimen of *Amphitrichum araliae* from Upsala shows the following characters: "Colonies small, 1—3 mm. in diameter. Capitulate hyphopodia alternate, irregular, pyriform, entire or somewhat lobed or angular,  $22-26 \approx 13-17 \mu$ . Perithecia 200—230  $\mu$  in diameter with a few long conical appendages, bent at their tips, 80—90  $\mu$  long, 25  $\mu$  thick at base. Spores 4-septate, oblong, rounded, somewhat constricted, brown,  $38-45 \approx 17-20 \mu$ ." It is therefore an *Irene* and differs materially from the description of Gaillard.

No. 14. *Irene cornu-caprae* (Hennings) n. comb.

*Meliola cornu-caprae* Hennings, Hedw. 43: 362. 1904.

*Appendiculella cornu-caprae* (Hennings) v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna), Math.-natur. Kl. Ab. I, 128: 556. 1919.

On Euphorbiaceae: 101, Manihot 9.

Type locality: Amazon No. 2971.

Specimens: Parts of the type from Kew and from Stockholm; Ule 2971.

No. 15. *Irene echinus* (Hennings) n. comb.

*Meliola echinus* Hennings, Hedw. 43: 363. 1904.

*Appendiculella echinus* (Hennings) v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna), Math.-natur. Kl. 128: 556. 1919.

On Moraceae: Coussapoa 101.

Type locality: Amazon, Ule 3134.

Citation: 101\*.

Specimen: Ule, Myc. Bras. 57.

New records: on Cecropia sps. British Guiana, Tumatumari, July 12, 1922, 226 and 237.

These specimens agree well with the original description and figures of Hennings, in so far as they go, with the exception of the spores which he describes and figures as bearing a hyaline, hemispherical papilla at each end. These I do not find. Definite spore characters are in this group so rare that it is regrettable not to find them. Our specimen however agrees well with Ule's specimen 57 from Brazil. Hennings description of the capitulate hyphopodia is very incomplete while the hyphopodia in



both the *Ule* specimens and my own are very characteristic. They are rare, far apart, and long-pedicellate (Fig. 5).

No. 16. *Irene tonkinensis* (Karsten & Roumeguère) n. comb.

*Meliola tonkinensis* Karsten & Roumeguère, Rev. Mycol. 12: 77. 1890.

*Meliola reticulata* Karsten & Roumeguère, Rev. Mycol. 12: 78. 1890.

*Appendiculella tonkinensis* (Karsten & Roumeguère) Toro, Mycol. 19: 71. 1927. (The specimen cited by Toro is probably the variety given below.)

On Moraceae: Ficus.

Type locality: Tonkin, China.

Citations: 213, 83\*.

Specimen: Roum., Fungi Sel. Gal. Exs. 5944.

No. 17. *Irene tonkinensis* (Karsten & Roumeguère) Stevens var. *cecropiae* n. var.

Colonies epiphyllous, circular to irregular, 2—10 millimeters in diameter, diffuse. Mycelium black, crooked, forming a loose network, about 8  $\mu$  in width, branches mostly opposite. Setae none.

Capitate hyphopodia alternate, 1 per cell, 30—40  $\mu$  apart, head cell subglobular, about 11  $\mu$  in diameter, basal cell about 5  $\mu$  long. Mucronate hyphopodia opposite, bottle-shaped, about 20  $\mu$  long.

Perithecia black, rough, 150—170  $\mu$  in diameter, smooth or with short larviform perithecial appendages, 36  $\approx$  11  $\mu$  or less, uncinatate at tip. Asci 2-spored, soon evanescent; ascospores 4-septate, brown, slightly constricted, obtuse, 17—19  $\approx$  36—43  $\mu$ .

Group number 3401. 4220. — Fig. 6.

On Moraceae: *Cecropia longifera*. Panama, France Field, Aug. 3, 1924, 972, Corozol Trail 17, Aug. 20, 1924, 122. On *Cecropia arachnoidea*, Panama, New Limon, Aug. 4, 1924, 1016 (type).

While agreeing with *I. echinus* in the possession of larviform appendages this fungus differs decidedly in the character of its mycelium, capitate hyphopodia, the length of the appendages, and in being strictly epiphyllous while *I. echinus* is strictly hypophyllous. It agrees reasonably well with *I. tonkinensis*, except that the capitate hyphopodia are not rare, and particularly in the variability of the perithecial appendages which as described in *I. tonkinensis* are merely conic protuberances. Some colonies bear perithecia that are quite smooth, without conic roughenings. In other colonies there are a few short conic protuberances; in still other cases the appendages are numerous, well developed and larviform. Such extensive variation in this character is quite unique in the genus.

No. 18. *Irene peglerae* (Doidge) Doidge, So. African Jour. Nat. Hist. 2: 40. 1920.

*Meliola peglerae* Doidge, Trans. Roy. Soc. So. Africa 5: 730. 1917.

On Scrophulariaceae: *Anastrabe*, *Halleria*.

Type locality: Natal, South Africa, Pegler 2363.

Citations: 45\*, 56.

Specimens: Doidge 9036 (compared with type), 2363, Pegler 1883.

No. 19. *Irene winteri* (Spegazzini) Sydow, H. & P., Annal. Mycol. 15: 194. 1917.

*Meliola winteri* Spegazzini, An. Soc. Cient. Argentina 26: no. 53. 1888.  
On Solanaceae: 83, Solanum 241, 83, 163, 313, 206, 9.

Type locality: Paraguay.

Distribution: Paraguay 241, 83, 313; Ecuador 163, 83.

Citations: 83\*, 263\*, 84, 206, 301, 277 a.

Specimen: the type.

Spegazzini says that possibly *M. tomentosa* Wint. is identical with this, also *M. ampullifera* Wint.

No. 20. *Irene winteri* (Spegazzini) Sydow, H. & P. var. *hyphopodiigera* (Spegazzini) n. comb.

*Meliola winteri* Spegazzini var. *hyphopodiigera* Spegazzini, An. Mus. Nac., Buenos Aires 32: 359. 1924.

On Solanaceae: Cestrum.

Type locality: Argentine.

Citation: 63\*.

The perithecia of this species are described by Spegazzini as very rough, covered with conic protuberances  $15-18 \approx 15 \mu$ . This alone, were it not regarded as a variety of *A. winteri* which has true larviform appendages, would place it in *Irenopsis*. It is obviously a transition form between these genera.

No. 21. *Irene adelphica* (Sydow, H.) n. comb.

*Appendiculella adelphica* Sydow, H., Annal. Mycol. 24: 313. 1926.

On Solanum erythrotichum.

Type locality: Los Angeles de San Ramon, Costa Rica 55 a.

Specimen: the type.

No. 22. *Irene papillifera* Sydow, H. & P., Annal. Mycol. 15: 194. 1917.

On Dilleniaceae: Saurauia.

Type locality: Luzon, Philippines, Bur. Sc. 25294.

Specimen: the type.

New record: on Doliocarpus. Panama, France Field, Sept. 2, 1924, 233.

No. 23. *Irene calophylli* (Stevens) n. comb.

*Meliola calophylli* Stevens, Ill. Biol. Mono. 2: 22. 1916.

*Appendiculella calophylli* (Stevens) Toro, Mycol. 17: 144. 1925.

On Guttiferae: Calophyllum.

Type locality: Porto Rico, Stevens 7059.

Citations: 261\*, 215\*, 331.

Distribution: Porto Rico 261; Dominica 29 a.

No. 24. *Irene tuberculata* (Stevens) n. comb.

*Meliola tuberculata* Stevens, Ill. Biol. Mono. 2: 22. 1916.

*Appendiculella tuberculata* (Stevens) Toro, Mycol. 17: 144. 1925.

On unknown dicotyledonous plant.

Type locality: Porto Rico, Stevens 7742.

No. 25. *Irene inermis* (Kalchbrenner & Cooke) Theissen & Sydow, Annal. Mycol. 15: 194. 1917.

*Meliola quinqueseptata* Rehm, Ascomycetes 492.

*Meliola inermis* Kalchbrenner & Cooke, Grev. 9: 34. 1880.

*Meliola acervata* Ellis & Everhart, Bul. Torrey Bot. Club 24: 126. 1897.  
On Loganiaceae: *Buddleia* 127, 83, 184, 45, 51, 18b, 254, 53, *Chilianthus* 51. On Labiatae: 166, 83. On Compositae: 184, *Eupatorium* 166. On Solanaceae: *Physalis* 66, 264.

Type locality: South Africa, on *Buddleia*.

Distribution: South Africa 127, 348, 83, 45, 53, 51, 18b; Brazil 166, 83, 184; Hawaii 66, 264.

Citations: 127\*, 83\*, 264\*, 58, 45\*, 116.

Specimens: Heller 2773, Doidge 1742, Rab. Wint. & Pazschke Fungi europ. 2752.

Earle states that specimens from Brazil reported by Ule as *Meliola inermis* 2543 Rab. Wint. Fung. europ. are really *Meliola compositarum* Earle. The original description gives "appendiculis nullis" based on a specimen 1251 on *Buddleia*. Gaillard states that the perithecia are covered with cutinized appendages in the form of a horn  $60 \approx 15 \mu$  and he figures a typical larviform appendage. The most reliable record of this fungus is perhaps that of Miss Doidge who studied the type specimen and describes the perithecial surface as covered with "conical or horn-shaped unicellular processes  $60 \approx 15 \mu$ ". The evidence is complete that vermiform appendages here obtain.

New record: on Solanaceae indet. Ecuador, San Miguel, Nov. 4, 1924. 229.

No. 26. *Irene inermis* (Kalchbrenner & Cooke) Theissen & Sydow var. *macilenta* (Winter) n. comb.

*Meliola inermis* Kalchbrenner & Cooke var. *macilenta* Winter, in Gaillard, Le Gen. Mel. 65. 1892.

On unknown host.

Type locality: Saint Thomas, Africa.

Citation: 348.

No. 27. *Irene echinata* (Gaillard) Theissen & Sydow, Annal. Mycol. 15: 461. 1917.

*Meliola echinata* Gaillard, Le Gen. Mel. 61. 1892.

On unknown host.

Type locality: Sumatra, Forbes No. 3132.

Citations: 83\*, 69\*.

Genus No. 5. *Irenopsis* Stevens, Annal. Mycol. 25: 411. 1927.

Characters of *Irene* but with perithecial setae and not with larviform appendages on the perithecium. Type species *Meliola tortuosa* Winter = *Irenopsis tortuosa* (Winter) Stevens. This genus constitutes a well defined group within the Meliolineae numbering at present 45 species and varieties.



Conspectus of *Irenopsis*.

## Spores 3-septate

2401. 6340, ps. 500  $\mu$ , obtuse or clavate, on  
 Compositae . . . . . *guignardi* No. 1.  
 2401. 5230, ps. 100—150  $\mu$ , on Compositae . *portoricensis* No. 2.

## Spores 4-septate

## Ps. not uncinata or twisted

## Ch. alternate or opposite

3403. 3220, hc. globose to ovate, 10—14  $\mu$ ,  
 ps. 3—7, 100—120  $\mu$ , slightly swollen, on  
 Leguminosae . . . . . *ingae* No. 3.

## Ch. opposite

3402. 4230, colonies 1—3 mm., hc. oblong  
 to globose, ps. obtuse, 300—800  $\mu$ , on  
 Goodeniaceae . . . . . *scaevolicola* No. 4.  
 3402. 3220, colonies —1 mm., crowded, hc.  
 ovate to globose, 12—18  $\mu$ , ps. 6—8, 80  $\mu$ ,  
 obtuse, on Compositae . . . . . *conferta* No. 5.

## Ch. alternate

## Setae obtuse

3401. 4220, colonies 5—15 mm., ch.  
 30—70  $\mu$  apart, ovate, pyriform or  
 irregular and angular, ps. 3—10, 100  
 —150  $\mu$ , on Aquifoliaceae . . . . . *maricaensis* No. 6.  
 3401. 4220, colonies 1—5 mm., branches  
 at right angles, hc. subglobose or  
 angular, 17  $\mu$ , ps. few, 120  $\mu$ , on  
 Rubiaceae . . . . . *chiococcae* No. 7.  
 3401. 3220, colonies 2—10 mm., hc. ovate,  
 cuneate or angled, 30—70  $\mu$  apart, ps.  
 3—12, 140  $\mu$ , on Sapindaceae . . . . . *cupaniae* No. 8.  
 3401. 3220, colonies 2—7 mm., hc. globose  
 to subglobose, 9—11  $\mu$ , ps. 100  $\mu$ , on  
 Sapindaceae . . . . . *arancosa* No. 9.  
 3401. 4230, colonies 2—5 mm., ps. 6—12.  
 80—100  $\mu$ , on Proteaceae . . . . . *rupulae* No. 10.  
 3401. 4230, colonies 1—2 mm., hc. globose,  
 10  $\mu$ , ps. 70—100  $\mu$ , on Celastraceae . *compacta* No. 11.  
 3401. 4220, colonies 1—2 mm., ch.  
 crowded, ovate, globose or angular, ps.  
 1—5, 90  $\mu$ , on Myrsinaceae . . . . . *parathesicola* No. 12.  
 3401. 4220, colonies 2—3 mm., hc. truncate  
 or slightly lobed to irregular, ch. close,  
 10—16  $\mu$ , ps. 6—12, 70—90  $\mu$ , on Rutaceae . *bosciae* No. 13.

3401. 3220, colonies, 3—5 mm., hc. ovate, irregular or angled, ps. 5—12, 60—90  $\mu$ , on Anacardiaceae . . . . . *kentaniensis* No. 14.
3401. 4330, hc. globose or lobed, distant, ps. 60—80  $\mu$ , on Tiliaceae . . . . . *coronata* No. 15.
3401. 4220, colonies 1—3 mm., ch. 15—50  $\mu$  apart, not crowded, globose, pyriform, 14  $\mu$ , ps. 1—5, 70—85  $\mu$ , on Tiliaceae . . . . . *coronata* var. *triumfettae* No. 16.
3301. 4220, ps. 100  $\mu$ , torulose or uncinata, on Tiliaceae . . . . . *coronata* var. *vanderystii* No. 17.
3401. 4220, colonies 5—10 mm., hc. ovate, globose, 20  $\approx$  14  $\mu$ , 50—80  $\mu$  apart, ps. many, 85  $\mu$ , on Lauraceae . . . . . *ocoteae* No. 18.
3401. 3220, colonies 5—20 mm., mycelium scant, ch. 75  $\mu$  apart, hc. ovoid, pyriform or irregular, ps. 3—10, 30—85  $\mu$ , on Melastomataceae . . . . . *miconiicola* No. 19.
3401. 4330, colonies 2—5 mm., hc. pyriform, irregular, angular, mycelium not scant, ps. 3—10, 30—80  $\mu$ , on Melastomataceae . . . . . *miconiae* No. 20.
3401. 3220, colonies 1—2 mm., ps. thin, 4  $\approx$  80  $\mu$ , hc. ovate, on Leguminosae . . . . . *chamaecristicola* No. 21.
3401. 3220, colonies 1—10 mm., branches at right angles, ch. 25  $\mu$  apart, cylindrical, 17  $\approx$  10  $\mu$ , ps. few, 80  $\mu$ , on Polygonaceae . . . . . *rectangularis* No. 22.
3401. 4330, ps. 80—120  $\mu$ , broadly rounded, hc. pyriform, colony crustose, on Marcgraviaceae . . . . . *ramonensis* No. 23.
3401. 4230, Colonies —2 mm., hc. entire or sublobed, ps. 84—160  $\mu$ , on Cucurbitaceae . . . . . *zehneriae* No. 23 a.
- Setae acute
3401. 2120, colonies 2—5 mm., hc. globose, ovate, 30—60  $\mu$  apart, ps. 5—7, 225  $\mu$ , acute, on Rubiaceae . . . . . *bayamonensis* No. 24.
3401. 5320, colonies 3—5 decimeter, ps. 100—200  $\mu$ , acute, ch. not crowded, oblong to cylindric, on Myrsinaceae . . . . . *armata* No. 25.
3401. 5230, colonies 1—3 mm., hc. ovate or angular, ps. 100—150  $\mu$ , acute, on Icacinaceae . . . . . *comata* No. 26.

3401. 4220, colonies 1—2 mm., hc. globose,  
10—12  $\mu$ , ps. 4—5, 100—130  $\mu$ , acute,  
on unknown host . . . . . *curvata* No. 27.
3401. 6340, colonies 4—8 mm., sub-  
crustose, hc. elongate or lobed, ps.  
150  $\approx$  10  $\mu$ , on Lauraceae . . . . . *martiniana* No. 28.
3401. 3220, hc. clavate, ps. 5—10, 40  
—100  $\mu$ , acute, on Malvaceae . . . . . *bastardiopsisidis* No. 29.
- S. acute or obtuse
3401. 4220, colonies 1—2 mm., hc. globose  
or lobed, 10—15  $\mu$ , s. 10  $\mu$  thick  $\approx$   
150—180  $\mu$ , acute or obtuse, on  
Malvaceae . . . . . *molleriana* No. 30.
3401. 3220, colonies 1—3 mm., hc. globose,  
ovate or angled, ch. closer than 85  $\mu$ ,  
ps. few, often 1, 45—55  $\mu$ , on Mal-  
vaceae . . . . . *molleriana* var. *sidicola* No. 31.
3401. 3220, colonies 1—2 mm., globose  
or lobed, s. slightly curved, 140  $\mu$ , acute  
or obtuse, on Cucurbitaceae . . . . . *aciculosa* No. 32.
3401. 3220, on Verbenaceae . . . . . *aciculosa* var. *viticis* No. 33.
- S. bidentate
3401. 5230, colonies 5—15 mm., ch. 3—5  
celled, ps. 900  $\mu$ , bidentate —15  $\mu$ , on  
Violaceae . . . . . *macrochaeta* No. 34.
- Ps. straight or sometimes uncinata
3401. 4310, colonies 1—3 mm., hc. cylindri-  
cal, ps. 125—165  $\mu$ , obtuse, hispid, on  
Fagaceae . . . . . *costaricensis* No. 35.
3401. 3220, colonies very thin, hc. globose,  
ovate, pyriform, 10  $\mu$ , ps. 3—4, 100  $\mu$ ,  
obtuse, on Rhamnaceae . . . . . *tenuissima* No. 36.
- Ps. few, rarely none
3402. 3220, colonies 2—4 mm., hc. globose,  
pyriform, 10  $\approx$  8  $\mu$ , ps. few or 0, 125  $\mu$ ,  
obtuse, on Solanaceae . . . . . *solani* No. 37.
3401. 3220, colonies 3—10 mm., + disk,  
hc. sub-globose or angular, ps. few or  
none, short, on Melastomataceae . . . . . *conostegiae* No. 38.
- Ps. twisted or uncinata
3301. 5220, hc. sub-ovate, pyriform, ps.  
—250  $\mu$ , on Piperaceae . . . . . *tortuosa* No. 39.
3301. 3230, hc. sub-ovate, ps. 3—7, 100  
—120  $\mu$ , on Flacourtiaceae . . . . . *claviculata* No. 40.



3301. 4220, colonies 1—3 mm., hc. pyri-  
form or angular,  $20 \approx 14 \mu$ , ps.  $115 \mu$ ,  
on Anacardiaceae . . . . . *comocladiae* No. 41.  
3301. 3210, colonies thin, hc. globose,  
10—11  $\mu$ , ps. 3—5, 90  $\mu$ , hooked, on  
Euphorbiaceae . . . . . *crotonis* No. 42.  
3301. 5230, colonies 3—10 mm., hc. sub-  
globose, ps. —80  $\mu$ , echinulate, on  
Sterculiaceae . . . . . *guianensis* No. 43.  
3301. 3220, colonies 1—4 mm., hc. pyri-  
form,  $20 \approx 14 \mu$ , ps. 30—40  $\mu$ , on  
Leguminosae . . . . . *toruloidea* No. 44.

Ps. uncinata, rarely wanting

- 31/301. 3210, colonies 1—8 mm., hc. sub-  
globose, 11  $\mu$ , ps. 32—50  $\mu$ , tip swollen,  
uncinate, on Bignoniaceae . . . . . *bignoniacearum* No. 45.

No. 1. **Irenopsis guignardi** (Gaillard) n. comb.

*Meliola guignardi* Gaillard, Bul. Soc. Mycol. France 8: 176. 1892.

Type locality: Ecuador, on unknown host. On Turpinia 331a.

Distribution: Ecuador 83, 163; Santo Domingo 331a.

Citation: 83\*.

Specimen: Lagerheim 1892, the type.

The specimen reported by me from Porto Rico (261) under this name is given below as a new species.

No. 2. **Irenopsis portoricensis** n. sp.

Colonies amphigenous, 1—2 mm. in diameter, very black and dense. Mycelium coarse, 14  $\mu$ , dark, sub-straight. Spot none. Capitate hyphopodia alternate, antrorse, very large. Stalk cell 10—30  $\mu$  long, head cell very large, to  $43 \approx 25 \mu$ , irregular or lobed. Mucronate hyphopodia ampulliform, few.

Perithecial setae very numerous, 100—150  $\mu$  long, dark. Mycelial setae none. Perithecia globose, 300  $\mu$  in diameter. Asci evanescent. Spores 3-septate,  $54 \approx 15 \mu$ .

Group number 2401. 5230. — Fig. 7.

On Staphyleaceae: Turpinia panniculata. Porto Rico, Maricao, July 19, 1915, 8922, Sept. 20, 1913, 3685 (type).

Reported as *M. guignardi* (261) but from this it differs in mycelial characters. This is probably the form reported by Toro (331a) as *M. guignardi*.

No. 3. **Irenopsis ingae** (Stevens & Tehon) n. comb.

*Irene ingae* Stevens & Tehon, Mycol. 18: 20. 1925.

On Leguminosae: Inga.

Type locality: British Guiana, Stevens 559.

Citation: 266\*.

No. 4. **Irenopsis scaevolicola** (Stevens) n. comb.

*Irene scaevolicola* Stevens, Bish. Mus. Bul. **19**: 45. 1925.

On Goodeniaceae: Scaevola.

Type locality: Oahu, Hawaiian Islands, Stevens 160.

Citation: 264\*.

No. 5. **Irenopsis conferta** (Tehon) n. comb.

*Meliola conferta* Tehon, Bot. Gaz. **67**: 502. 1919 (not *Meliola conferta*

Doidge).

On Compositae: Rhacoma (Leuzea).

Type locality: Porto Rico, Mona Island, Stevens 6147.

Citation: 309\*.

No. 6. **Irenopsis maricaensis** (Stevens) n. comb.

*Meliola maricaensis* Stevens, Ill. Biol. Mono. **2**: 31. 1916.

On Aquifoliaceae: Ilex.

Type locality: Porto Rico, Stevens 3679.

Citation: 215\*.

No. 7. **Irenopsis chiococcae** (Stevens) n. comb.

*Meliola chiococcae* Stevens, Ill. Biol. Mono. **2**: 27. 1916.

On Rubiaceae: Chiococca.

Type locality: Porto Rico, Stevens 7743.

Citation: 261\*.

No. 8. **Irenopsis cupaniae** (Stevens) n. comb.

*Meliola cupaniae* Stevens, Ill. Biol. Mono. **2**: 29. 1916.

On Sapindaceae: Cupania.

Type locality: Porto Rico, Stevens 9143.

Citation: 261\*.

No. 9. **Irenopsis araneosa** (Sydow H. & P.) n. comb.

*Meliola araneosa* Sydow, H. & P., Leaf. Philippine Bot. **6**: 1922. 1913.

On Sapindaceae: Guioa.

Type locality: Mindanao, Philippines, 13553.

Citation: 4.

Specimen: Philippine Bur. Sci. 13553.

No. 10. **Irenopsis rupalae** (Spegazzini) n. comb.

*Meliola rupalae* Spegazzini, An. Mus. Nac., Buenos Aires **32**: 349. 1924.

On Proteaceae: Rupala.

Type locality: Argentine.

No. 11. **Irenopsis compacta** (Earle) n. comb.

*Meliola compacta* Earle, Bul. N. Y. Bot. Gard. **3**: 306. 1905 (not *Meliola compacta* (Lév.) Speg).

On Celastraceae: Crossopetalum.

Type locality: Porto Rico, Heller 6217.

Specimen: Heller 6217.

Citation: 261.

No. 12. **Irenopsis parathesicola** (Stevens) n. comb.

*Meliola parathesicola* Stevens, Ill. Biol. Mono. 2: 24. 1916.

On Myrsinaceae: Parathesis.

Type locality: Porto Rico, Stevens 8192.

Citation: 261\*.

No. 13. **Irenopsis bosciae** (Doidge) n. comb.

*Meliola bosciae* Doidge, Trans. Roy. Soc. So. Africa 5: 731. 1917.

On Rutaceae: Boscia.

On Capparidaceae: Maerua.

Type locality: Natal, South Africa, Doidge 2510, on Boscia.

Citations: 45\*, 215.

Specimens: Doidge 2510 (co-type), 9016.

No. 14. **Irenopsis kentaniensis** (Doidge) n. comb.

*Meliola kentaniensis* Doidge, Trans. Roy. Soc. So. Africa 8: 113. 1920.

On Anacardiaceae: Rhus.

Type locality: Natal, South Africa, Pegler 2354.

Citation: 48\*.

No. 15. **Irenopsis coronata** (Spegazzini) n. comb.

*Meliola coronata* Spegazzini, An. Soc. Cient. Argentina 14: No. 175. 1883.

On Tiliaceae: Luhea 236, 208, 21, 83, 184, 313, 255, 207. On Anacardiaceae: Schinus 83, 89, 313. On Sapindaceae: Cupania 313. On Rubiaceae: Lerchea 9. On Verbenaceae: 9.

Type locality: Guarapi, Paraguay, 3847, on Luhea.

Distribution: Paraguay 236, 208, 83, 184, 313; St. Thomas, Africa 21, 207; Brazil 83, 89, 313; Argentine 255.

Citation: 83\*.

Specimens: the type, Ule, Myc. Bras. 1970, Balansa 3847, Roum., Fungi Sel. Gal. Exs. 3223.

As originally described by Spegazzini the perithecial setae were 60—80  $\approx$  5  $\mu$ . Gaillard offers the suggestion that this is only a variety of *Meliola obesa*.

No. 16. **Irenopsis coronata** (Spegazzini) Stevens var. **triumfettae** (Stevens) n. comb.

*Meliola triumfettae* Stevens, Ill. Biol. Mono. 2: 30. 1916.

On Tiliaceae: Triumfetta 261, 331a. On Malvaceae: Hibiscus 261, 10.

Type locality: Porto Rico, Stevens 4421, on Triumfetta. — Fig. 8.

Distribution: Porto Rico 261; Congo, Africa 10; Santo Domingo 331a.

Citation: 215.

New records: on Sterculiaceae, Helicteres guazumaefolia. Panama, Culebra, Oct. 2, 1924, 910, Chiva-Chiva trail, Sept. 18, 1924, 602. On Tiliaceae, Luhea speciosa. Panama, Chiva-Chiva trail, Sept. 18, 1924, 626. On Malvaceae, Hibiscus tiliaceus. Panama, Loma Bracho, Sept. 13, 1924, 482. On Malache sessiliflora. Panama, Corozal, Trail 17, Aug. 30, 1924, 125, Las Cruces Trail, Sept. 2, 1924, 161. On Malache?. Panama, Culebra,



Oct. 2, 1924, 913, Chiva-Chiva Trail, Sept. 18, 1924, 602a, Mandingo, Oct. 15, 1924, 1346. On *Malache ovata*. Panama, Corozal, Trail 17, Aug. 30, 1924, 118. On *Malvaceae* ind. Costa Rica, San Cecelia, Aug. 7, 1923, 746.

No. 17. *Irenopsis coronata* (Spegazzini) Stevens var. *vanderystii* (Beeli) n. comb.

*Meliola triumfettiae* var. *vanderystii* Beeli, Bul. Jard. Bot., Bruxelles 7: 100. 1920.

On Tiliaceae: *Triumfetta*.

Type locality: Congo, Africa, Vanderyst 2745.

No. 18. *Irenopsis ocoteae* (Stevens) n. comb.

*Meliola ocoteae* Stevens, Ill. Biol. Mono. 2: 29. 1916.

On Lauraceae: *Ocotea*.

Type locality: Porto Rico, Stevens 8428.

No. 19. *Irenopsis miconieicola* (Stevens) n. comb.

*Meliola miconieicola* Stevens, Ill. Biol. Mono. 2: 23. 1916.

On Melastomataceae: *Miconia*.

Type locality: Porto Rico, Stevens 8639.

Citation: 261\*.

No. 20. *Irenopsis miconiae* (Stevens) n. comb.

*Meliola miconiae* Stevens, Ill. Biol. Mono. 2: 30. 19.

On Melastomataceae: *Miconia*.

Type locality: Porto Rico, Stevens 9366.

Distribution: Porto Rico 261; Santo Domingo 331a.

Citation: 261\*.

No. 21. *Irenopsis chamaecristicola* (Stevens) n. comb.

*Meliola chamaecristicola* Stevens, Ill. Biol. Mono. 2: 26. 1916.

On Leguminosae: *Chamaecrista*.

Type locality: Porto Rico (Mona Island), Stevens 6113.

Citation: 261\*.

No. 22. *Irenopsis rectangularis* (Stevens) n. comb.

*Meliola rectangularis* Stevens, Ill. Biol. Mono. 2: 27. 1916.

On Polygonaceae: *Coccoloba*.

On Malpighiaceae: *Banisteria*.

Type locality: Porto Rico, Stevens 7292, on *Coccoloba*.

Citation: 261\*.

No. 23. *Irenopsis ramonensis* (Sydow, H.) n. comb.

*Meliola ramonensis* Sydow, H., Annal. Mycol. 24: 307. 1926.

On Marcgraviaceae: *Marcgravia nepenthoides*.

Type locality: Piedades de San Ramon, Costa Rica 330.

Specimen: the type.

No. 23a. *Irenopsis zehneriae* (van der Bijl) n. comb.

*Meliola zehneriae* van der Bijl, So. Afr. Jour. Sc. 23: 283. 1926.

On Cucurbitaceae: *Zehneria*.

Type locality: So. Africa.

No. 24. **Irenopsis bayamonensis** (Tehon) n. comb.

*Meliola bayamonensis* Tehon, Bot. Gaz. **67**: 506. 1919.

On Rubiaceae: Psychotria.

Type locality: Porto Rico, Stevens 392.

No. 25. **Irenopsis armata** (Spegazzini) n. comb.

*Meliola armata* Spegazzini, Bol. Acad. Nac., Cordoba **11**: No. 231. 1889.

On Myrsinaceae: Myrsine 83. On Bignoniaceae: Amphilophium 313.

Type locality: Brazil, on Myrsine.

Distribution: Brazil, 242, 313, 83.

Citation: 263\*.

Specimen: the type.

No. 26. **Irenopsis comata** (Doidge) n. comb.

*Meliola comata* Doidge, Trans. Roy. Soc. So. Africa **8**: 111. 1920.

On Icacinaceae: Pyrenacantha.

Type locality: Natal, South Africa, Doidge 11020.

Citation: 48\*.

Specimen: the type.

The host was first incorrectly reported as Ipomoea.

No. 27. **Irenopsis curvata** (Yates) n. comb.

*Meliola curvata* Yates, Philippine Jour. Sci. C. Bot. **13**: 367. 1918.

On unknown host.

Type locality: Samar, Philippines, Bur. Sc., Ramos 24642.

Specimen: the type.

No. 28. **Irenopsis martiniana** (Gaillard) n. comb.

*Meliola martiniana* Gaillard, Le Gen. Mel. 68. 1892.

On Lauraceae: Persea.

Type locality: Florida, U. S. A.

Citation: 83\*.

Specimens: the type, Rab.-Wint. & Pazschke, Fungi europ. 3852, 39.

No. 29. **Irenopsis bastardiopsisidis** (Spegazzini) n. comb.

*Meliola bastardiopsisidis* Spegazzini, An. Mus. Nac., Buenos Aires **32**: 348. 1924.

On Malvaceae: Bastardiopsis.

Type locality: Argentine.

No. 30. **Irenopsis molleriana** (Winter) n. comb.

*Meliola molleriana* Winter, Hedw. **25**: 98. 1886.

On Malvaceae: 349, 348, 83, 313, Abutilon 166, 83, 184, 313, 251; Sida 261, 10. On Trigoniaceae: Trigonia 166, 313, 184. On Piperaceae: 184, 313. On Borraginaceae: Varronia 261. On Caricaceae: Carica 184, 313. On Passifloraceae: Passiflora 184, 313. On Rutaceae: 313.

Type locality: St. Thomas, South Africa, on Malvaceae.

Distribution: South Africa 349, 348, 313; Congo 10; Brazil 166, 83, 184, 313, 251; Porto Rico 261; Paraguay 251; Santo Domingo 331a.

Citations: 83\*, 347\*, 267.

New records: on Malvaceae: Sida. Panama, Culebra, Oct. 2, 1924, 917; Costa Rica, Peralta, July 13, 1923, 423.

No. 31. *Irenopsis molleriana* (Winter) Stevens var. *sindicola* (Stevens & Tehon) n. comb.

*Irene indicola* Stevens & Tehon, Mycol. 18: 21. 1926.

On Malvaceae: Sida.

Type locality: British Guiana, Stevens 478.

Citation: 266\*.

No. 32. *Irenopsis aciculosa* (Winter) n. comb.

*Meliola aciculosa* Winter, Hedw. 25: 98. 1886.

On Cucurbitaceae: 349, 348, 83. On Tiliaceae: Triumfetta, 164. On Rhamnaceae: 184.

Type locality: St. Thomas Island, Africa, on Cucurbitaceae, Moller.

Distribution: Africa 349, 348, 83; Ecuador 164; Brazil 184.

Citations: 348\*, 83\*.

Specimen: Ule, Myc. Bras. 2204.

No. 33. *Irenopsis aciculosa* (Winter) Stevens var. *viticis* (Rehm) n. comb.

*Meliola aciculosa* Winter var. *viticis* Rehm, Leaf. Philippine Bot. 6: 2257. 1914.

On Verbenaceae: Vitex.

Type locality: Los Baños, Philippines 1515.

No. 34. *Irenopsis macrochaeta* (Sydow, H. & P.) n. comb.

*Meliola macrochaeta* Sydow, H. & P., Leaf. Philippine Bot. 5: 1538. 1912.

On Violaceae: Alsodeia.

Type locality: Palawan, Philippines 12887.

Citation: 4.

Specimen: the type.

No. 35. *Irenopsis costaricensis* n. sp.

Colonies amphigenous, abundant above, but not bearing perithecia, 1—3 mm. in diameter, scant below, but with perithecia. Mycelium nearly straight, 7  $\mu$  thick, dark. Capitate hyphopodia alternate. Stalk cell short, 3—7  $\mu$ ; head cell mostly cylindrical, 18—20  $\approx$  10  $\mu$ , sometimes subglobose or obovate. Mucronate hyphopodia ampulliform 18  $\approx$  7  $\mu$ .

Perithecial setae 125—165  $\mu$  long, from the base of the perithecium; 7  $\mu$  thick, black, simple, obtuse at the tip, straight or twisted, minutely but distinctly hispid in its distal part. Mycelial setae none. Perithecia globose, 154—185  $\mu$  in diameter, arising from a radiate subiele, slightly rough with rounded protuberances. Spores 4-septate, 23—47  $\approx$  18—22  $\mu$ . Group number 3401. 4320. — Fig. 9.

On Fagaceae: Quercus oocarpa. Costa Rica, Cartago, June 23, 1923, 64.

This fungus is of special interest since only one of the Meliolineae, *Leptomeliola quercina*, has been described heretofore on the Fagaceae and that with 5-septate spores and 8-spored asci.



No. 36. *Irenopsis tenuissima* (Stevens) n. comb.

*Meliola tenuissima* Stevens, Ill. Biol. Mono. 2: 24. 1916.

On Rhamnaceae: Gouania.

Type locality: Porto Rico, Stevens 3142.

Distribution: Porto Rico 261; Costa Rica 277a; Santo Domingo 331a.

No. 37. *Irenopsis solani* (Stevens) n. comb.

*Meliola solani* Stevens, Ill. Biol. Mono. 2: 15. 1916.

*Irene solani* (Stevens) Toro, Mycol. 19: 73. 1927.

On Solanaceae: Solanum 261, Physalis 9.

Type locality: Porto Rico, Stevens 5750.

Distribution: Porto Rico 261; Santo Domingo 331a.

Citation: 261\*.

New records: on Solanaceae: Solanum. Costa Rica, El Alto, July 6, 1923, 230; Panama, Tapia, Aug. 15, 1923, 1119, 1048; British Guiana, Kartabo, July 23, 1922, 615; on Solanaceae indet. Panama, Mandingo, Oct. 15, 1924, 1321.

The fungus agrees perfectly with the Porto Rican type material. Reexamination of the type material and of the other specimens confirms my original description and I cannot agree with Toro that no true setae are present.

No. 38. *Irenopsis conostegiae* n. sp.

Colonies epiphyllous, indefinite, 3—10 mm. in diameter. Mycelium slightly crooked, 7  $\mu$  thick, closely adhering to the leaf, irregularly branched, loosely woven. Capitate hyphopodia alternate, not crowded. Stalk cell short, 3—4  $\mu$ ; head cell subglobose and somewhat angular, 14  $\mu$ . Mucronate hyphopodia ampulliform,  $22 \approx 7 \mu$ .

Perithecial setae few or absent; when present, short. Mycelial setae none. Perithecia globose, slightly rough, 185  $\mu$  in diameter, borne on radiate disks. Asci evanescent. Spores 4-septate,  $36 \approx 10$ —12  $\mu$ .

Group number 3401—3220. — Fig. 10.

On Melastomataceae: Conostegia xalapensis. Panama, France Field, Sept. 2, 1924 215 and 216 (type), Oct. 3, 1924, 1000.

This species is distinguished from *I. miconiicola* by its more abundant mycelium, from *I. miconiae* by the shape of its capitate hyphopodia. It is definitely characterized by the hyphopodia, the scant mycelium, the abundance of hypothecial disks and the small perithecia.

No. 39. *Irenopsis tortuosa* (Winter) n. comb.

*Meliola tortuosa* Winter, in Gaillard, Le Gen. Mel. 67. 1892.

On Piperaceae: Piper 83, 166, 261, 29, 331a. On Cyatheaceae: Dicksonia 83, 166, 184. On Compositae: Senecio 84. On Leguminosae: Cassia 166. On Tiliaceae: Triumfetta 166. On Malpighiaceae: 166. On Bignoniaceae: Jacaranda 184.

Type locality: Brazil, on Piper.

Distribution: Brazil 83, 166, 184; Ecuador 84; Porto Rico 261, 29; Santo Domingo 331a.

Citations: 83\*, 261\*, 215.

Specimen: the type.

New records: on Piperaceae, *Piper peltatum*. Panama, Summit, Sept. 6, 1924, 313, Tumba Muerta, Sept. 27, 1924, 856, Oct. 12, 1924, 1242, Empire, Oct. 8, 1924, 1130, Gatun, Oct. 11, 1924, 1209; Trinidad, Cumuto, Aug. 16, 1922, 876; British Guiana, Rockstone, July 3, 1922, 235. A white parasite was found upon specimen No. 876. On *Piper* sp. British Guiana, Tumatumari, July 11, 1922, 107. This specimen differs from the original description in having shorter spores and setae and in being amphigenous. A species of *Helminthosporium* was found overgrowing it. On *Piper sanjoseanum*. Panama, Agua Clara, Sept. 17, 1924, 546, New Limon, Oct. 4, 1924, 1015.

All of the collections determined as *I. tortuosa* have spores 32–36  $\mu$  long, usually below 33  $\mu$ , as was true also of specimens collected in Porto Rico. This deviation in spore measurement from that recorded in the type description drawn from South American material is noteworthy.

This is the host of the type specimen from Brazil. This fungus is readily distinguished from others by the characteristic perithecial setae and the mycelium. The original description of Winter as given by Gaillard does not give the position of the hyphopodia which is in all my specimens alternate making the formula 3301.5220. The perithecial subiculum does not appear to have been mentioned before but is of importance as a character. The mucronate hyphopodia are very numerous in many specimens and differ somewhat from Winter's description. The fungus is usually overgrown by various parasites.

In the *I. tortuosa* material from British Guiana, 235 (Fig. 11) the perithecial setae are about 70–110  $\mu$  long; the surface of the perithecium is only moderately rough, with rounded, not conic, projections; the capitate hyphopodia are subglobose, there is a small subicular development below the perithecium.

Specimens from Trinidad, Porto Rico, Panama on different species of *Piper* all agree closely.

No. 40. ***Irenopsis claviculata*** (Doidge) n. comb.

*Meliola claviculata* Doidge, Trans. Royal. Soc. So. Africa 8: 113. 1920.

On Flacourtiaceae: *Oncoba*.

Type locality: Portuguese East Africa, Evans 7388.

Citations: 48\*, 49, 357.

Specimen: the type.

No. 41. ***Irenopsis comocladiae*** (Stevens) n. comb.

*Meliola comocladiae* Stevens, Ill. Biol. Mono. 2: 25. 1916.

On Anacardiaceae: *Comocladia*, *Spondias*.

Type locality: Porto Rico, Stevens 9015.

Citations: 261\*, 72.

Distribution: Porto Rico 261; Dominica 72, 29c.

No. 42. **Irenopsis crotonis** (Stevens & Tehon) n. comb.

*Irene crotonis* Stevens & Tehon, Mycol. 18: 20. 1926.

On Euphorbiaceae: Croton.

Type locality: Trinidad, Stevens 837.

Citation: 266\*.

Specimen: the type.

New records: on Asclepiadaceae, Hoya. Panama, Old Corozal Road, Sept. 5, 1924, 295, Ft. Davis, Mt. Hope, Old Road, Sept. 25, 1924, 812, Ancon, Sept. 26, 1924, 843, Las Cruces Trail, Sept. 28, 1924, 898.

There are several differences between these specimens and the type on Croton, from Trinidad. The colonies are much larger and amphigenous, the mycelium is much more crooked, a condition that may be accounted for by the pubescence.

No. 43. **Irenopsis guianensis** (Stevens & Dowell) n. comb.

*Meliola guianensis* Stevens & Dowell, Phytop. 13: 248. 1923.

On Sterculiaceae: Theobroma.

Type locality: British Guiana, Stevens 974.

Citation: 265\*.

No. 44. **Irenopsis toruloidea** (Stevens) n. comb.

*Meliola toruloidea* Stevens, Ill. Biol. Mono. 2: 25. 1916.

*Irene toruloidea* (Stevens) Stevens & Tehon, Mycol. 18: 18. 1926.

On Leguminosae: Cassia, Inga.

Type locality: Porto Rico.

Distribution: Trinidad, Porto Rico.

Citations: 261\*, 2, 215\*.

New records: on Leguminosae, Cassia pilifera. Panama, Corozol, Trail 17, Aug. 20, 1924, 105. On Cassia sp., Panama, Brazos Brook Reservoir, Sept. 22, 1924, 751, Culebra, Oct. 2, 1924, 960, Ft. Sherman, Sweetwater, Oct. 6, 1924, 1094, Mandingo, Oct. 15, 1924, 1324; Costa Rica, Peralta, July 11, 1923, 321, Experiencia Farm, July 18, 1923, 551, Port Limon, Aug. 10, 1923, 859.

In some of these numbers the perithecial setae were merely clavate and somewhat swollen toward the tip, not really uncinat. The mycelium of *I. ingae*, *I. toruloidea* and *I. chamaecristicola* is of much the same character except that in *I. ingae* the capitate hyphopodia are not globular but are somewhat elongate, while in *I. chamaecristicola* they are nearly globular. In *I. toruloidea* the capitate hyphopodia are intermediate between these two. In all three the perithecia develop upon radiate subicles.

No. 1324 differs very markedly from *I. ingae* in its mycelium and hyphopodia and from other related species on Legumes in its perithecial setae. The epiphyllous colonies are usually heavily parasitized and therefore of quite different appearance from the hypophyllous colonies. The hypophyllous colonies show a much more crooked mycelium due evidently to the presence of numerous trichomes.



No. 45. *Irenopsis bignoniacearum* n. sp.

Colonies mostly epiphyllous, occasionally hypophyllous, 1–8 mm., circular and definite, or diffuse. Mycelium nearly straight, dark, 6  $\mu$ . Capitate hyphopodia alternate, 36  $\mu$  apart. Stalk cell short, 3–4  $\mu$ ; head cell subglobose, 11  $\mu$ . Mucronate hyphopodia ampulliform, 18  $\approx$  5  $\mu$ .

Perithecial setae few, 32–50  $\mu$  long, thicker at the distal end, 11  $\mu$ , and curved or uncinat. Mycelial setae none. Perithecia globose, smooth, 105–125  $\mu$ , on a radiate disk. Asci evanescent. Spores 4-septate, 32–36  $\approx$  14  $\mu$ .

Group number 31/301. 3210.

On Bignoniaceae indet. Panama, Corozal, Trail 17, Aug. 30, 1924, 81 (type) and 83.

The perithecial setae are so few, short and difficult to see that they may easily be overlooked, indeed they may be absent from some perithecia.

Genus No. 6. *Irenina* Stevens, Annal. Mycol. 25: 411. 1927.

Like *Meliola* but devoid of mycelial setae and of perithecial setae and larviform appendages. Type *Irenina glabra*.

Conspectus of *Irenina*.

## Spores 3-septate

- |   |                   |        |
|---|-------------------|--------|
| 2101. 5240, colonies 3–4 mm., dense, crustose, black, hc. globose, rare, on Ericaceae . . . . . | <i>andromedae</i> | No. 1. |
| 2101. 4220, hc. globose, 7–10 $\mu$ , on Compositae . . . . .                                   | <i>abnormis</i>   | No. 2. |
| 2101. 5230, colonies 2–5 mm., hc. globose, 10–12 $\mu$ , on Taxaceae . . . . .                  | <i>podocarpi</i>  | No. 3. |
| 2101. 4230, colony crustose, hc. globose, spores curved, on Taxaceae . . . . .                  | <i>pitya</i>      | No. 4. |
| 2101. 4230, colonies 1 mm., hc. oblong-ovate, spot definite, on Rosaceae . . . . .              | <i>sanguinea</i>  | No. 5. |
| 2101. 4220, colonies 1–2 mm., on Myricaceae . . . . .   | <i>manca</i>      | No. 6. |
| 2101. 5320, colonies 2–4 mm., hc. 2–3 lobed, on unknown host . . . . .                          | <i>boni</i>       | No. 7. |
| 2101. 5230, colonies thin, hc. often 2–3 lobed, on Ericaceae . . . . .                          | <i>exilis</i>     | No. 8. |
| 2101. 5230, hc. irregular to lobed, on Pinaceae . . . . .                                       | <i>pinicola</i>   | No. 9. |

## Spores 4-septate

## Ch. alternate or opposite

- |  |                     |         |
|--|---------------------|---------|
| 3103. 5230, colonies 3–5 mm., hc. ovate, sub-lobed, disk present, on Myrtaceae . | <i>valdiviensis</i> | No. 10. |
|--|---------------------|---------|

3103. 3220, colonies 1—2 mm., hc. subglobose or irregular, disk present, on Euphorbiaceae . . . . . *dalechamprae* No. 11.
3103. 4220, colonies 6—8 mm., hc. ovate or lobed, on Sapindaceae . . . . . *wrightii* No. 12.
3103. 5220, colonies 1—7 mm., hc. angular or lobed, stalk 10  $\mu$ , on Verbenaceae . . . . . *sepulta* No. 13.
3103. 5330, colonies —5 mm., tenuous, on unknown host . . . . . *ampullifera* No. 14.
3103. 4230, colonies 3—4 mm., hc. globose or lobed, no disk, on Rutaceae . . . . . *obesa* No. 15.
- Ch. opposite
3102. 3220, colonies 1—5 mm., hc. conical, on Sapindaceae . . . . . *bonplandi* No. 16.
3102. 4230, hc. entire, obtuse-conic, on Eleocarpaceae . . . . . *amoena* No. 17.
3102. 5340, colonies 2—4 mm., hc. globose, on unknown host . . . . . *laevis* No. 18.
3102. 2220, colonies 2—3 mm., hc. ovate, globose, 12  $\mu$ , on Rubiaceae . . . . . *uncariae* No. 19.
3102. 4230, colonies 2—7 mm., crustose, hc. clavate, no disk, on Apocynaceae . . . . . *aspidospermatis* No. 20.
- Ch. alternate
3101. 4220, colonies 1—3 mm., hc. globose, perithecium long dimidiate, on Thymelaeaceae . . . . . *aibonitensis* No. 21.
3101. 3220, colony indefinite, hc. globose, 14  $\mu$ , on Rhamnaceae . . . . . *colubrinae* No. 22.
3101. 3220, colonies 1—5 mm., hc. globose, 14  $\mu$ , on Compositae . . . . . *cyclopoda* No. 23.
3101. 3220, mycelium sinuous, hc. globose, 11  $\mu$ , + disk, on Polygalaceae . . . . . *monninae* No. 24.
3101. 3210, colonies 3—10 mm., ch. 32  $\mu$  apart, hc. globose, 11  $\mu$ , on Marcgraviaceae . . . . . *marcgraviae* No. 25.
3101. 3210, hc. globose, 17—19  $\mu$ , rather close, on Euphorbiaceae . . . . . *alchorneae* No. 26.
3101. 4220, colonies 1—2 mm., hc. regular, sub-globose, + disk, on Melastomataceae . . . . . *shropshuriana* No. 27.
3101. 4220, hc. globose or angular, on Solanaceae . . . . . *plebeja* No. 28.
3101. 4220, hc. globose, irregular, on Solanaceae . . . . . *plebeja* var. *asperrima* No. 29.

3101. 4230, colonies 2—3 mm., hc. ovate, globose, on Solanaceae . . . . . *laeta* No. 30.
3101. 3220, hc. sub-globose, 11—14  $\mu$ , on Solanaceae . . . . . *solanicola* No. 31.
3101. 3220, colonies 0.5—1.5 mm., dense, hc. globose, on Solanaceae . . . . . *portoricensis* No. 32.
3101. 4230, colonies 1—2 mm., hc. sub-globose, pyriform, perithecia in close groups, on unknown host . . . . . *conglomerata* No. 33.
3101. 3210, colonies 2—5 mm., hc. sub-globose, 15  $\mu$ , parasitic, on Zingiberaceae . *parasitica* No. 34.
3101. 3220, colonies 2—4 mm., hc. sub-globose to ovate, 11  $\cong$  14  $\mu$ , on Leguminosae . *meibomia* No. 35.
3101. 3220, colonies 3—8 mm., hc. sub-globose, ovate, 14—18  $\mu$ , on Dilleniaceae . *obscura* No. 36.
3101. 4220, ch. pyriform, crowded, 17  $\cong$  10  $\mu$ , colonies 1—3 mm., spores irregular, on Acanthaceae . . . . . *irregularis* No. 37.
3101. 4220, hc. pyriform, on Cornaceae . *aucubae* No. 38.
3101. 32—0, colonies 1—3 mm., hc. ovate, on Rubiaceae . . . . . *penicilliformis* No. 39.
3101. 3120, colonies, 1—2 mm., hc. ovate, small, mainly at angles, mycelium very crooked, on Loganiaceae . . . . . *buddleyicola* No. 40.
3101. 3220, hc. ovate, 14—17  $\mu$ , 14  $\mu$  distant, mycelium not meshed, on Labiatae . *hyptidicola* No. 41.
3101. 3220, large perithecia and spores, on Labiatae . . . . . *hyptidicola* var. *wombalensis* No. 42.
3101. 3220, colonies —5 mm., hc. ovate, globose, not crustose but meshed, on Labiatae . . . . . *anastomosans* No. 43.
3101. 4210, hc. ovate, on Moraceae . . . *reticulata* No. 44.
3101. 3220, colony 1—5 mm., hc. ovate, on Bignoniaceae . . . . . *arachnoidea* No. 45.
3101. 4220, colonies 1—5 mm., hc. ovate, 20—25  $\mu$ , on Urticaceae . . . . . *tremae* No. 46.
3101. 4230, colonies 1 mm., hc. ovate, distant, on Euphorbiaceae . . . . . *verrucosa* No. 47.
3101. 4230, colonies 1—2 mm., hc. pyriform, 14—16  $\mu$ , on Caprifoliaceae . . . . . *viburni* No. 48.
3101. 4220, hc. ovate-oblong, on Guttiferae . *mangostana* No. 49.
3101. 3220, colony tenuous, hc. remote, clavate to irregular or sub-dentate, 20—30  $\cong$  8—9  $\mu$ , no disk, on Leguminosae . *lonchocarpi* No. 50.



3101. 4220, colonies 1—3 mm., dense,  
mycelium straight, hc. clavate, 20—25  
≈ 12 μ, no disk, on Leguminosae . . . *gesuitica* No. 51.
3101. 4230, colonies 1—2 mm., crustose, hc.  
clavate, 20—25 ≈ 12 μ, disk present, on  
Leguminosae . . . . . *ingaeicola* No. 52.
3101. 4230, colonies 1—3 mm., hc. regular,  
clavate, 18—25 μ, + disk, on Rutaceae . *fagaricola* No. 53.
3101. 2220, colonies 2—4 mm., hc. clavate,  
oblong, on Meliaceae . . . . . *sandorici* No. 54.
3101. 4220, colonies 3—12 mm., hc. ovate,  
cylindrical, 14 ≈ 10 μ, on Zingiberaceae . *costi* No. 55.
3101. 3220, colonies 1—2 mm., hc. oblong,  
15 ≈ 17 μ, on Araceae . . . . . *aracearum* No. 56.
3101. 3220, colonies 3—5 mm., hc. oblong,  
8—12 μ, on Combretaceae . . . . . *lagunculariae* No. 57.
3101. 5330, colonies 2—3 mm., tenuous, hc.  
cylindric, on Boraginaceae . . . . . *longipoda* No. 58.
3101. 4320, colonies arachnoid, hc. cylin-  
drical, on Melastomataceae . . . . . *heudelotii* No. 59.
3101. 3220, colony sub-crustose, hc. elongate,  
straight, antrorse, on Melastomataceae . *melastomacearum* No. 60.
3101. 4230, colonies 1—2 mm., sub-crustose,  
hc. cylindric, 16—18 μ, on Apocynaceae . *strophanthi* No. 61.
3101. 3220, colony not dense, hc. ovoid to  
elliptic, antrorse, on Apocynaceae . . . *escharoides* No. 62.
3101. 4230, colonies 2—4 mm., hc. cylin-  
drical or clavate, on Rosaceae . . . . . *prunicola* No. 63.
3101. 3220, colonies 1—10 mm., hc. ellipti-  
cal, 14 ≈ 7 μ, occasional ascending  
branches, on Rubiaceae . . . . . *isertiae* No. 64.
3101. 3210, colonies 1—10 mm., mycelium very  
angular, hc. globose, 14 μ, on Leguminosae *cutitella* No. 65.
3101. 4230, colony crustose, 2—3 mm., hc.  
globose, ovate or lobed, on Rubiaceae . *glabra* No. 66.
3101. 5220, colonies 1—3 mm., hc. sub-  
globose or irregular, on Leguminosae . *hymenaeicola* No. 67.
3101. 5330, colonies 2—6 mm., hc. globose,  
or lobed, 14—18 μ, on unknown host . *tomentosa* No. 68.
3101. 4240, colony thin, ch. irregular, on  
Styracaceae . . . . . *aberrans* No. 69.
3101. 3220, colonies 1—2 mm., crustose,  
hc. sub-globose, 14 μ, or sub-lobed, on  
Cucurbitaceae . . . . . *nigra* No. 70.

3101. 3220, colonies 1—3 mm., hc. ovate, pyriform, or irregular, on Melastomataceae . . . . . *clidemiae* No. 71.
3101. 3220, colonies 1—8 mm., hc. ovate or angular, perithecia rough, ch. 25  $\mu$  distant, on Piperaceae . . . . . *glabroides* No. 72.
3101. 3220, hc. angular, on Bignoniaceae . *glabroides* var. *schlegeliae* No. 73.
3101. 4220, colonies 1—10 mm., myc. not crustose, hc. ovate or irregular, on Cucurbitaceae . . . . . *anguriae* No. 74.
3101. 3230, colonies 5—10 mm., hc. ovate or irregular, antrorse, on Hamamelaceae . *scabra* No. 75.
3101. 5220, colonies crustose, hc. ovate or angled, on Lauraceae . . . . . *calva* No. 76.
3101. 4320, colonies 2—5 mm., mycelium crooked, hc. ovate, pyriform or angular, on Lauraceae . . . . . *perseae* No. 77.
3101. 4220, colonies 1—2 mm., hc. ovate, pyriform or irregularly angular, non-hyphopodiate filaments occasional, on Gesneriaceae . . . . . *cyrtandrae* No. 78.
3101. 5330, colonies 2—4 mm., hc. clavate or lobed, on Loganiaceae . . . . . *implicata* No. 79.
3101. 3120, colonies —2 mm., myc. crooked, hc. clavate or truncate, irregular, on Cucurbitaceae . . . . . *confragosa* No. 80.
3101. 4220, hc. ovate to irregular, on Combretaceae . . . . . *combreti* No. 81.
3101. 3220, colonies 3—12 mm., hc. irregular, ovate to cylindrical, 18—22  $\mu$ , stipe 14—36  $\mu$ , on Dilleniaceae . . . . *longipedicellata* No. 82.
3101. 6330, colonies 2—5 mm., tenuous, hc. cylindric or lobed, on Aquifoliaceae . . *lagerheimii* No. 83.
3101. 6240, colonies 1—2 mm., hc. angular, irregular, on Araliaceae . . . . . *cheiroidendronis* No. 84.
3101. 5330, colonies 1—4 mm., hc. irregularly angular, crowded, 18—25  $\mu$ , on Rutaceae . *trachylaena* No. 85.
3101. 5220, colonies 5 mm., mycelium very crooked, hc. irregular, on Leguminosae . *cubitorum* No. 86.
3101. 3220, colonies 5—10 mm., hc. very few, entire or irregular, on Euphorbiaceae . *subapoda* No. 87.
3101. 5340, colonies 2—5 mm., thin, hc. irregular or lobed, 18—22  $\mu$ , stipe 25—30  $\mu$ , on Celastraceae . . . . . *ditricha* No. 88.

3101. 3220, colonies 1—2 mm., crustose,  
hc. 10  $\mu$ , on Celastraceae . . . . . *gymnosporiae* No. 89.
3101. 5320, colonies 3—4 mm., crustose, hc.  
lobed, on Myrtaceae . . . . . *atra* No. 90.
3101. 4230, colonies 2—4 mm., tenuous, hc.  
lobed, variable, on Myrtaceae . . . . . *zeyheri* No. 91.
3101. 4240, colonies close, hc. 1—2—3  
lobed, on Loganiaceae . . . . . *obducens* No. 92.
3101. 4230, colonies 1—3 mm., hc. sub-  
pyriform or 3—4 lobed, perithecia very  
rough, on Cucurbitaceae . . . . . *triloba* No. 93.
3101. 4320, colonies 1—2 mm., hc. lobed,  
on Violaceae . . . . . *rinoreae* No. 94.
3101. 3220, on Rubiaceae . . . . . *seminata* No. 95.
3101. 6420, colonies crustose, hc. few, on  
Magnoliaceae . . . . . *crustacea* No. 96.
3101. 5340, colonies arachnoid, large, ch.  
few, on Araliaceae . . . . . *morototoni* No. 97.
3101. 3220, hc. 18—24  $\mu$ , on Verbenaceae . *vilis* No. 98.
3101. 3230, colonies 1—3 mm., mycelium  
straight, hc. 15—18  $\approx$  9—12  $\mu$ , retrorse,  
on Leguminosae . . . . . *pseudanastomosans* No. 99.
3101. 4220, hc. 20—25  $\mu$ , with disk, on  
Myrtaceae . . . . . *atricha* No. 100.

No. 1. *Irenina andromedae* (Patouillard) n. comb.

*Meliola andromedae* Patouillard, Rev. Mycol. 10: 137. 1888.

*Irene andromedae* (Patouillard) Sydow, H. & P., Annal. Mycol. 15: 194. 1917.

On Ericaceae: *Andromeda* 154.

Type locality: Isle de France, Africa.

Citations: 154\*, 301, 83\*.

Patouillard writes of the perithecial surface as rough; Gaillard of conic cutinized protuberances.

Specimen: The type.

No. 2. *Irenina abnormis* (Theißen) Stevens; n. sp.

*Meliola pulchella* Spegazzini var. *abnormis* Theißen, Brot. 9: 23. 1910.

On Compositae: *Baccharis*.

Type locality: Brazil.

No. 3. *Irenina podocarpi* (Doidge) n. comb.

*Meliola podocarpi* Doidge, Trans. Roy. Soc. So. Africa 5: 725. Jan. 1917.

*Irene anisomera* Sydow, H. & P., Annal. Mycol. 15: 194. Oct. 1917.

*Irene podocarpi* (Doidge) Doidge, So. African Jour. Nat. Hist. 2: 40. 1920.

On Taxaceae: *Podocarpus*.

Type locality: Natal, South Africa, Doidge 1748.



Distribution: Natal, South Africa, 45, 18b; Philippines 301. Porto Rico.

Citations: 45\*, 51, 55\*.

Specimen: Doidge 8897 (Compared with type).

Dr. Sydow writes me that the two species united above are identical.

New record: On *Podocarpus coriaceus*.

Porto Rico, Maricao, Jan. 5, 1914.

No. 4. *Irenina pitya* (Saccardo) n. comb.

*Meliola pitya* Saccardo, sp. n. ad int. Nuov. Giorn. Bot. **23**: 185. 1916.

On Taxaceae: *Taxus*.

Type locality: Caroga, N. Y.

Though the spore shape shows this and *I. podocarpi* to be closely related the colony differences probably warrant their maintenance as distinct species.

No. 5. *Irenina sanguinea* (Ellis & Everhart) n. comb.

*Meliola sanguinea* Ellis & Everhart, Jour. Mycol. **2**: 42. 1888.

On Rosaceae: *Rubus*.

Type locality: Louisiana, Langlois 74.

Specimen: Langlois Jan. 1896.

This has been regarded by numerous mycologists as identical with *M. manca* Ell. & Martin (see next number) and *M. puiggarii* Speg. (see p. 423). It is however distinguished from the latter by the absence of larviform appendages and by the distinctly parasitic character on *Rubus*, resulting in the reddish spots that gave rise to its name. It is distinguished from *M. manca* by its different hyphopodia and its parasitic habit.

No. 6. *Irenina manca* (Ellis & Martin) n. comb.

*Meliola manca* Ellis & Martin, Amer. Nat. **17**: 1284. 1883.

*Irene manca* (Ellis & Martin) Theissen & Sydow, Annal. Mycol. **15**: 461, 194. 1917.

*Meliola manca* var. *tenuis* Winter, in Gaillard, Le Gen. Mel. 38. 1892.

On Myricaceae: *Myrica* 67, 134, 64, 83, 261, 332, 313. On Rosaceae: *Rubus* 348, 64, 83, 84, 163, 184, 313, 158, 45, *Geum* 313. On Lauraceae: *Persea* 83, 313, *Acaena* 313. On Rubiaceae, *Uncaria* 9.

Type locality: Florida, U. S. A. on *Myrica*.

Distribution: Southern U. S. A. 67, 83, 134, 64, 332, 26, 313; Southern Africa 348, 83, 45; Ecuador 84, 313, 163; Brazil 313, 184; Porto Rico 261; China 158.

Citations: 153, 83\*, 261\*, 45\*, 215.

Specimens: Ellis & Everhart, N. Amer. Fungi 1292; Heller 6420; Martin, Florida, 1884 and 1883 on *Myrica*; Earle, Alabama, 1896 on *Myrica*.

The host records cited above are open to question in so far as they refer to other than the Myricaceae. The others recorded probably really refer to *I. sanguinea* or *Irene calostroma*.

New records: On *Myrica*. Costa Rica: Cartago, June 23, 1923. 102.

No mature perithecia were found, but characters of mycelium and hyphopodia agree well with descriptions of this species and with specimen of Martin in Ellis N. A. F. 1292.

No. 7. *Irenina boni* (Gaillard) n. comb.

*Meliola boni* Gaillard, Le Gen. Mel., 39, 1892.

*Irene boni* (Gaillard) Sydow, H. & P., Annal. Mycol. 15: 194. 1917.

On unknown host.

Type locality: Tonkin, Bon 3319.

Citation: 83\*.

Specimen: the type.

No. 8. *Irenina exilis* (Sydow, H. & P.) n. comb.

*Meliola exilis* Sydow, H. & P., Annal. Mycol. 2: 170. 1904.

*Irene exilis* (Sydow, H. & P.) Stevens, Bish. Mus. Bul. 19. 1925.

On Ericaceae: Gaultheria 279, Vaccinium 264.

Type locality: Chilean Andes.

Distribution: Chile and Argentine 279; Hawaii 264.

Specimen: the type.

New record: On Vaccinium (?) Costa Rica, Cartago, June 23, 1923, 84.

No. 9. *Irenina pinicola* (Dearness) n. comb.

*Meliola pinicola* Dearness, Mycol. 18: 241. 1926.

On Pinus.

Type locality: North Carolina.

Specimen: the type. — Fig. 12.

The capitate hyphopodia are alternate, stalk cell from short to  $18\ \mu$  long, head cell irregular to lobed,  $—18\ \mu$  in diameter. The perithecial appendages described by Dearness arise from the subiculum, not from the perithecium and are the usual radiating hyphae so commonly found at the perithecial bases; they are not setae.

No. 10. *Irenina valdiviensis* (Spegazzini) n. comb.

*Meliola valdiviensis* Spegazzini, Fungi Chilenses, 29, no. 49. 1910.

On Myrtaceae: Eugenia.

Type locality: Chile.

No. 11. *Irenina dalechampia* Stevens n. sp.

Colonies punctiform, dense, 1—2 mm. in diameter. Mycelium somewhat crooked, dark, thick,  $7—8\ \mu$ . Capitate hyphopodia opposite or alternate, crowded, usually less than  $11\ \mu$  apart. Stalk cell short,  $3—4\ \mu$ , head cell subglobose, ovate, clavate, or more rarely irregular. Mucronate hyphopodia ampulliform. Perithecial setae none. Mycelial setae none.

Perithecia globose, smooth,  $150—185\ \mu$ , arising from a hypothecial disk that is nearly entire. Asci evanescent. Spores 4-septate,  $36 \approx 14\ \mu$ .

Group number 3103. 3220. — Fig. 13.

On Euphorbiaceae: Dalechampia scandens. Ecuador, Terecita, Oct. 30, 1924, 153; Oct. 29, 1924, 49.

No. 12. *Irenina wrightii* (Berkeley & Curtis) n. comb.

*Meliola wrightii* Berkeley & Curtis, in Berkeley, Jour. Linn. Soc., London 10: 392. 1869.

On Sapindaceae: 12, 83, *Allophylus* 184; on Meliaceae: 254.

Type locality: Cuba, Cuban Fungi 887, on Sapindaceae.

Distribution: Cuba 12, 83; Brazil 184; Argentine 254.

Citations: 83\*, 69\*.

No. 13. *Irenina sepulta* (Patouillard) n. comb.

*Meliola sepulta* Patouillard in Stevens, Ill. Biol. Mono. 2: 14. 1916.

*Irene sepulta* (Patouillard) Toro, Mycol. 17: 139. 1925.

On Verbenaceae: *Avicennia*.

Type locality: Porto Rico, Heller 390.

Citations: 261\*, 29.

Specimen: Heller 6416, 390.

No. 14. *Irenina ampullifera* (Winter) n. comb.

*Meliola ampullifera* Winter, Rev. Mycol. 26: 206. 1885.

*Irene ampullifera* (Winter) Theißen & Sydow, Annal. Mycol. 15: 461. 1917.

On unknown host.

Type locality: Paraguay.

No. 15. *Irenina obesa* (Spegazzini) n. comb.

*Meliola obesa* Spegazzini, Anal. Soc. Cien. Argentina, 72, no. 179. 1883.

*Meliola obesula* Spegazzini, Rev. Argentina Hist. Nat. 1: 27, no. 75. 1891.

*Irene obesa* (Spegazzini) Theißen & Sydow, Annal. Mycol. 15: 461. 1917.

On Rutaceae: 226, 243, 83, 313, *Heliopsis* 249, 255, *Balfourodendron* 255, *Zanthoxylon* 331a. On Moraceae: *Cecropia* 184, 313. On Sapindaceae: *Cupania* 313. On Meliaceae: 313, 83.

Type locality: Paraguay, 3834, on Rutaceae.

Distribution: Paraguay 236, 313, 83; Brazil 166, 184, 313, 243; Argentine 255.

Citations: 84, 83\*, 263\*.

Specimens: Rab., Wint. & Pazsch., Fungi europ. 3853; Balansa 3585, the type of *M. obesula*; the type of *M. obesa*.

No. 16. *Irenina bonplandi* (Spegazzini) n. comb.

*Meliola bonplandi* Spegazzini, An. Mus. Nac., Buenos Aires 23: 39. 1912.

On Sapindaceae: *Sapindus*.

Type locality: Argentine, Misiones, 1909.

Citation: 255.

In the original publication the name is spelled "Bonplandi" and the collection as "prope Bonpland." In later publications Spegazzini gives the specific name as "bonplandi".

New records: on Sapindaceae; *Sapindus saponaria*. Panama, Culebra, Oct. 2, 1924. 932. On Sapindaceae, indet. Panama, Punta Bruja, Sept. 16, 1924, 527, Tumba Muerta, Sept. 27, 1924, 859, Miraflores, Sept. 15, 1924, 506.

These specimens agree well with the description except that in two accounts of it by Spegazzini no mention is made of the occasional larvi-form appendages which do occur on these specimens. Perhaps these specimens should be referred to *Irene*. Study of the type might show that it also should be so referred.

No. 17. *Irenina amoena* (Sydow, H.) n. comb.

*Irene amoena* Sydow, H., Annal. Mycol. **24**: 315. 1926.

On Elaeocarpaceae: *Sloanea faginea*.

Type locality: Piedades de San Ramon, Costa Rica. 162.

Specimen: the type.

No. 18. *Irenina laevis* (Berkeley & Curtis) n. comb.

*Meliola laevis* Berkeley & Curtis, Jour. Linn. Soc. London **10**: 392. 1869.

On Celastraceae: 157. On Meliaceae: *Schmidelia* 313.

Type locality: Cuba, on unknown host.

Distribution: Brazil 166, 313; China 157; Cuba 83, 313.

Citation: 83\*.

No. 19. *Irenina uncariae* (Rehm) n. comb.

*Meliola uncariae* Rehm, Leaf. Philippine Bot. **6**: 2192. 1914.

On Rubiaceae: *Uncaria*.

Type locality: Luzon, Philippines, 1280 Baker.

Citations: 5, 301.

Specimen: Philippine Bur. Sci. 1280 (co-type).

No. 20. *Irenina aspidospermatis* (Spegazzini) n. comb.

*Meliola aspidospermatis* Spegazzini, An. Mus. Nac. Buenos Aires **32**: 361. 1924.

On Apocynaceae: *Aspidosperma*.

Type locality: Argentine.

No. 21. *Irenina aibonitensis* (Stevens) n. comb.

*Meliola aibonitensis* Stevens, Ill. Biol. Mono. **2**: 16. 1916.

*Irene aibonitensis* (Stevens) Toro, Mycol. **17**: 140. 1925.

On Thymelaeaceae: *Daphnopsis*.

Type locality: Porto Rico, Stevens 8470.

Citation: 261.

The perithecia in this species long remain dimidiate, but eventually swell, becoming spherical at maturity, at least in most cases. This is obviously a transition form between *Amazonia* and the *Irene* group.

No. 22. *Irenina colubrinae* n. sp.

Colonies amphigenous, indefinite. Small, 2—3 mm., loose. Mycelium thin, 5—6  $\mu$ , translucent, straight above, slightly crooked below the leaf, sparse. Capitate hyphopodia alternate, antrorse, distant, 40—230  $\mu$ . Stalk cell short, 3—4  $\mu$ ; head cell regular, globose, or slightly elongate, 14  $\mu$ . Mucronate hyphopodia ampulliform, 14  $\approx$  7  $\mu$ , short, thick.

Perithecial and mycelial setae none. Perithecia globose, developed on a disk, nearly transparent, 140—110  $\mu$ , rough with conic prominences,



11  $\mu$  high and broad at base. Asci evanescent. Spores 4-septate, 32—39  $\approx$  14  $\mu$ .

Group number 3101. 3220. — Fig. 14.

On Rhamnaceae: *Colubrina rufa*. Panama, France Field, Sept. 2, 1924, 173, Fort Lorenzo Trail, Oct. 10, 1924, 1197.

The very scant mycelium with distant hyphopodia and the very abundant perithecia are the most characteristic features.

No. 23. *Irenina cyclopoda* (Stevens) n. comb.

*Meliola cyclopoda* Stevens, Ill. Biol. Mono. 2: 16. 1916.

*Irene cyclopoda* (Stevens) Toro, Mycol. 17: 140. 1925.

On Compositae: *Pseudelephantopus*.

Type locality: Porto Rico, Stevens 7871.

Citations: 261\*, 215\*.

New records: on Compositae; *Elephantopus*, British Guiana, Kartabo, July 23, 1922, 575. On Piperaceae; *Piper*, British Guiana, Tumatumari, July 12, 1922, 159; Trinidad, Cumuto, Aug. 16, 1922, 877.

No. 24. *Irenina monninae* n. sp.

Colonies epiphyllous, minute, 1 mm. or less, thin, scattered. Mycelium sinuous. Capitate hyphopodia alternate, stalk cell short, 3—4  $\mu$ ; head cell globose, 11  $\mu$ , mucronate hyphopodia ampulliform. 14—18  $\approx$  8  $\mu$ .

Perithecial setae none. Mycelial setae none. Perithecia globose, smooth, or with low conic roughenings, 60—170  $\mu$ , originating on a radiate subicle. Asci evanescent. Spores 4-septate, 28—36  $\approx$  11  $\mu$ .

Group number 3101. 3220. — Fig. 20.

On Polygalaceae: *Monnina rupestris*. Ecuador, Terecita, Oct. 29, 1924, 50. No species has heretofore been recorded upon the Polygalaceae.

No. 25. *Irenina marcgraviae* (Tehon) n. comb.

*Meliola marcgraviae* Tehon, Bot. Gaz. 67: 506. 1919.

*Irene marcgraviae* (Tehon) Stevens & Tehon, Mycol. 18: 22. 1926.

On Marcgraviaceae: *Marcgravia*.

Type locality: Porto Rico, Stevens 8722.

Distribution: British Guiana 266; Porto Rico 309; Costa Rica 277a.

Specimen: the type.

No. 26. *Irenina alchorneae* (Stevens & Tehon) n. comb.

*Irene alchorneae* Stevens & Tehon, Mycol. 18: 21. 1926.

On Euphorbiaceae: *Alchornea*.

Type locality: British Guiana, Stevens 245.

Citation: 266\*.

No. 27. *Irenina shropshirlana* n. sp.

Colonies minute, 1—2 mm., epiphyllous, closely adherent. Mycelium opaque, dark, nearly straight, 7  $\mu$  thick, branching opposite. Capitate hyphopodia alternate. Stalk cell short, 3—6  $\mu$ ; head cell subglobose, regular, 14  $\mu$ . Mucronate hyphopodia ampulliform, 18  $\approx$  7  $\mu$ .

Perithecial setae none. Mycelial setae none. Perithecia globose, smooth, small, 100—110  $\mu$ , borne on a radiate disk. Asci evanescent. Spores 4-septate,  $43 \approx 14 \mu$ .

Group number 3101. 4220. — Fig. 15.

On Melastomataceae: *Miconia argentea*. Panama, Fort Sherman Sweetwater, Oct. 6, 1924, 1083 (type), France Field, Sept. 2, 1924, 212, Oct. 3, 1924, 1005, Ft. Lorenzo Trail, Oct. 10, 1924, 1150, Ft. Randolph, 100 feet hill trail, Sept. 23, 1924, 747, 767, Barro Colorado, Aug. 29, 1924, 581, Paitilla Pt., Sept. 8, 1924, 341, Tapia, Aug. 15, 1923, 1043, 1008.

This species is distinguished by its small, closely adhering colony and its globose, capitate hyphopodia from both *I. melastomacearum* and *I. conostegiae*.

No. 28. *Irenina plebeja* (Spegazzini) n. comb.

*Meliola plebeja* Spegazzini, Bol. Acad. Nac. Cien. Cordoba 11: 238. 1889.

*Irene plebeja* (Spegazzini) Theißen & Sydow, Annal. Mycol. 15: 461. 1917.

On Solanaceae: 242, 184, 243, 313, 83, 84, 331a, Acnistus 255. On Rubiaceae: 184, 313. On Bignoniaceae: Amphilophium 191.

Type locality: Apiahy, Brazil, 2759, on Solanaceae(?).

Distribution: Brazil 242, 83, 184, 191, 243, 313; Paraguay 84; Argentine 255; Santo Domingo 331a.

Citations: 84\*, 242.

Specimen in Rehm, Ascom. 1024 sub *M. plebeja* is *M. armata* Speg.

No. 29. *Irenina plebeja* (Spegazzini) Stevens var. *asperrima* (Spegazzini) n. comb.

*Meliola plebeja* Spegazzini var. *asperrima* Spegazzini, Bol. Acad. Nac. Cien. Cordoba 11: 239. 1889.

On Solanaceae: 242, Physalis 9.

Type locality: Apiahy, Brazil, 1551.

No. 30. *Irenina laeta* (Theißen) n. comb.

*Meliola laeta* Theißen, Broteria 12: 24. 1914.

On Solanaceae: Physalis.

Type locality: Brazil.

Citation: 320\*.

No. 31. *Irenina solanicola* (Hennings) n. comb.

*Meliola solanicola* Hennings, Engler's Bot. Jahrb. 28: 326. 1901 (not *Meliola solanicola* Gaillard).

*Meliola henningsii* Beeli, Bul. Jard. Bot. Bruxelles 7: 100. 1920.

On Solanaceae: Solanum, 95, Physalis, 9.

Type locality: Usambara, Africa.

No. 32. *Irenina portoricensis* (Toro) n. comb.

*Irene portoricensis* Toro, Mycol. 17: 141. 1925.

On Solanaceae: Acnistus.

Type locality: Porto Rico.

No. 33. *Irenina conglomerata* (Winter) n. comb.

*Meliola conglomerata* Winter, Hedw. 25: 95. 1886.

On unknown host.

Type locality: St. Thomas, Africa.

Citation: 348\*.

No. 34. *Irenina parasitica* n. sp.

Colonies epiphyllous, irregular, 2—5 mm. in diameter. Mycelium branching opposite. Spot larger than the colony, pale at border, browned at center, visible only from above. Capitate hyphopodia alternate. Stalk cell short, 3—4  $\mu$ ; head cell subglobose to pyriform, about 15  $\mu$  in diameter. Mucronate hyphopodia not seen.

Perithecial setae none. Mycelial setae none. Perithecia globose, smooth, 90  $\mu$ . Asci evanescent. Spores 4-septate, 36—39  $\approx$  14  $\mu$ .

Group number: 3101. 3210. — Fig. 16.

On Zingiberaceae: *Costus*. Ecuador, Terecita, Oct. 31, 1924. 194.

This species is peculiar in being epiphyllous, in its irregular colonies and particularly in its parasitism. The colony causes a pale spot that is about two millimeters greater in diameter than the colony itself and there is considerable evidence of physiological disturbance.

No. 35. *Irenina meibomia* n. sp.

Colonies epiphyllous, irregular, indefinite, 2—4 mm. in diameter. Mycelium 7  $\mu$  thick, slightly sinuous. Capitate hyphopodia alternate, distant, 36—90  $\mu$ . Stalk cell short, 3—4  $\mu$ ; head cell globose or ovate, 11  $\approx$  14  $\mu$ . Mucronate hyphopodia ampulliform, 11—14  $\approx$  7  $\mu$ .

Perithecial setae none. Mycelial setae none. Perithecia globose, somewhat rough with conic thickenings, originating on a radiate disk, 80—110 in diameter. Asci evanescent. Spores 4-septate, 32—36  $\approx$  11—14  $\mu$ .

Group number 3101—3220. — Fig. 17.

On Leguminosae: *Meibomia cana*. Panama, France Field, Sept. 2, 1924, 1213.

This species is distinguished from *Meliola lonchocarpi* Speg. by its capitate hyphopodia; from *Irenina gesuitica* by the hypothecial disks; from *I. cubitella* and *I. cubitorum* by mycelial characters; from *Meliola ingaticola* Speg. by hyphopodia and colony characters.

No. 36. *Irenina obscura* n. sp.

Colonies epiphyllous, indefinite, 3—8 mm. in diameter. Mycelium 7  $\mu$  thick, nearly straight, branching mostly opposite. Capitate hyphopodia alternate. Stalk cell short, 3—4  $\mu$ ; head cell subglobose to ovate, regular, 14—18  $\approx$  11—14  $\mu$ . Mucronate hyphopodia ampulliform, numerous, 14—18  $\approx$  7  $\mu$ .

Perithecial setae none. Mycelial setae none. Perithecia globose, originating on a radiating subicular disk, 123—154  $\mu$ , rough with rounded protuberances 14  $\mu$  high, 14  $\mu$  broad at base. Asci evanescent. Spores 4-septate, 32—36  $\approx$  15—16  $\mu$ .

Group number 3101. 3220. — Fig. 18.

On Dilleniaceae indet. Panama, Corozal, Trail 17, Aug. 30, 1924, 76, and 117 (type). On Saurauia. Peru, Chosica, Dec. 13, 1924, 228.

This is quite distinct from *I. papillifera* in many ways.

No. 37. ***Irenina irregularis*** (Stevens) n. comb.

*Meliola irregularis* Stevens, Ill. Biol. Mono. 2: 15. 1916.

*Irene irregularis* (Stevens) Toro, Mycol. 17: 139. 1925.

On Acanthaceae: Hygrophila.

Type locality: Porto Rico, Stevens 9283.

Citations: 261\*, 215\*.

No. 38. ***Irenina aucubae*** (Hennings) n. comb.

*Meliola aucubae* Hennings, Engler's Bot. Jahrb. 29: 150. 1901.

On Cornaceae: Aucuba.

Type locality: Japan.

Citation: 153.

Specimen: the type.

The spores in this type specimen measured  $47-50 \approx 18-20 \mu$ .

No. 39. ***Irenina penicilliformis*** (Gaillard) n. comb.

*Meliola penicilliformis* Gaillard, Le Gen. Mel. 57. 1892.

On Rubiaceae: Psychotria.

Type locality: Amazon.

Citation: 83\*.

No. 40. ***Irenina buddleyicola*** (Hennings) n. comb.

*Meliola buddleyicola* Hennings, Hedw. 44: 61. 1904.

On Loganiaceae: Buddleya.

Type locality: Amazon, Ule 3187.

Specimens: type, Ule, Myc. Brasil. 56.

The colonies are small, 1—2 mm., the mycelial branching mainly at right angles and the mycelium very crooked and characteristic.

New record: On Buddleia intermedia. Ecuador, Terecita, Oct. 29, 1924, 179.

No. 41. ***Irenina hyptidicola*** (Stevens) n. comb.

*Meliola hyptidicola* Stevens, Ill. Biol. Mono. 2: 16. 1916.

*Irene hyptidicola* (Stevens) Toro, Mycol. 17: 139. 1925.

On Labiatae: Hyptis.

Type locality: Porto Rico, Stevens 8130.

Distribution: Porto Rico 261, 331; Costa Rica 277a; Santo Domingo 331a.

Citation: 261\*.

New record: On Labiatae: Hyptis. Ecuador, Barrnital Nov. 17, 1924, 310, Terecita, Oct. 29, 1924, 171, Costa Rica, Siquirres, July 31, 1923, 672, Peralta, July 13, 418, 420.

No. 42. ***Irenina hyptidicola*** (Stevens) Stevens var. ***wombalensis*** (Beeli) n. comb.

*Meliola hyptidicola* Stevens var. *wombalensis* Beeli, Bul. Jard. Bot., Bruxelles

7: 95. 1920.

On Labiate: Hyptis.



Type locality: Congo, Africa, Vanderyst 2062.

Specimen: the type.

Citation: 215\*.

No. 43. *Irenina anastomosans* (Winter) n. comb.

*Meliola anastomosans* Winter, Hedw. 25: 96. 1886.

*Irene anastomosans* (Winter) Theißen & Sydow, Annal. Mycol. 15: 461. 1917.

On Labiatae: 349, 348, 166, 184, 83. On Leguminosae: Desmodium 22.

Type locality: St. Thomas, Africa, on Labiatae.

Distribution: St. Thomas, Africa 348, 349, 22, 83; Brazil 166, 184, 174.

Citations: 348\*, 83\*.

Specimens: the type, Rab., Winter & Pazsch., Fung. europ. 3847.

Gaillard figures the perithecial setae of this species as quite unique, being about 60—70  $\mu$  long, 3-celled and with the terminal cell swollen and globose.

No. 44. *Irenina reticulata* (Karsten & Roumeguère) n. comb.

*Meliola reticulata* Karsten & Roumeguère, Rev. Mycol. 12: 78. 1890.

On Moraceae: Ficus.

Type locality: Tonkin.

Distribution: Tonkin; Straits Settlements.

Specimens: Baker, Fungi Mal. 455.

No. 45. *Irenina arachnoidea* (Spegazzini) n. comb.

*Meliola arachnoidea* Spegazzini, Bol. Acad. Nac. Sc. Cordoba 11: 381, no. 237. 1889.

*Irene arachnoidea* (Spegazzini) Theißen & Sydow, Annal. Mycol. 15: 461. 1917.

On Bignoniaceae: 242, 83, 245, 313, 29f. On Melastomataceae: 205. On Leguminosae: Cassia 190, 178, 313. On Loganiaceae: Buddleya 312, 313. On Tiliaceae: Triumfetta 197, 4, 301, 6. On Lauraceae: 184, 313. On Labiatae: Hyptis 184, 313.

Type locality: Brazil, on Bignoniaceae.

Distribution: Brazil 83, 245, 184, 190, 313, 242, 178; Amazon 313; Philippines 197, 5, 301, 6.

Citations: 201.

Specimens: Sydow, Fungi Exot. Exs. 367, 368; Baker, Fungi Mal. 248; Phil. Bur. Sci. 485.

Theißen (312) suggests that this species should be considered conspecific with *M. inermis*, *M. quinquespora*, *M. quinqueseptata*, *M. buddleyicola*. In 1910 he places *Meliola buddleyicola* as a synonym, and *Meliola inermis* so but with a question mark. The absence of vermiform appendages, however, serve to distinguish this from the species mentioned.

Spegazzini (255) gives this as the equivalent of *M. brasiliensis* though he does not use the older name. Gaillard figures setae for *M. brasiliensis* while he and Spegazzini state that there are none in *I. arachnoidea*.

New records: On Bradburya angustifolia. Panama, Upper Juan Dios River, Oct. 23, 1917, E. K. Killip, reported as *Meliola cookiana* (119).

No. 46. *Irenina tremae* (Spegazzini) n. comb.

*Meliola tremae* Spegazzini, Anal. Mus. Nac. Buenos Aires 23: 45 no. 1346. 1912.

On Urticaceae: Trema.

Type locality: Argentine.

Citations: 263\*, 255, 215.

Specimen: the type.

New records: On Myriocarpa longipes. Panama, Ft. Sherman, Sweetwater, Oct. 6, 1924, 1069. The specimens on this host show hyphopodia much more irregular than these on Trema. On Urticaceae: Trema. Panama, France Field, Oct. 3, 1924, 973, Ft. Randolph, 100 feet hill trail, Sept. 23, 1924, 771.

No. 47. *Irenina verrucosa* (Patouillard) n. comb.

*Meliola verrucosa* Patouillard, Journ. Bot. (Paris) 11: 347. 1897.

On Euphorbiaceae: Hancea.

Type locality: Tonkin.

Specimen: the type.

No. 48. *Irenina viburni* (Sydow, H. & P.) n. comb.

*Meliola viburni* Sydow, H. & P., Annal. Mycol. 15: 193. 1917.

On Caprifoliaceae: Viburnum.

Type locality: Luzon, Philippines, Bur. Sci. 25156.

Distribution: Philippines 301; China 303.

Citations: 116, 267.

Specimen: the type.

Setae do not occur typically in this species though Sydow says that rarely a solitary setum is to be found.

No. 49. *Irenina mangostana* (Saccardo) n. comb.

*Meliola mangostana* Saccardo, Bul. Orto Bot. Univ. Napoli 6: 42. 1921.

On Guttiferae: Garcinia.

Type locality: Singapore.

Specimens: Baker, Fungi Mal. 450, 453.

The position of this species is in some doubt since the specimen, Fung. Mal. 453, shows a few setae on some of the colonies.

No. 50. *Irenina lonchocarpi* (Spegazzini) n. comb.

*Meliola lonchocarpi* Spegazzini, An. Mus. Nac. Buenos Aires 32: 358. 1924.

On Leguminosae: Lonchocarpus.

Type locality: Argentine.

No. 51. *Irenina gesuitica* (Spegazzini) n. comb.

*Meliola gesuitica* Spegazzini, Anal. Mus. Nac. Buenos Aires 32: 362. 1924.

On Leguminosae: Galactia.

Type locality: Argentine.

No. 52. *Irenina ingaeicola* (Spegazzini) n. comb.

*Meliola ingaeicola* Spegazzini, An. Mus. Nac. Buenos Aires 32: 351. 1924.

On Leguminosae: Inga.

Type locality: Argentine.

No. 53. *Irenina fagaricola* (Spegazzini) n. comb.

*Meliola fagaricola* Spegazzini, An. Mus. Nac. Buenos Aires 32: 352. 1924.

On Rutaceae: Fagara.

Type locality: Argentine.

No. 54. *Irenina sandorici* (Rehm) n. comb.

*Meliola sandorici* Rehm, Philippine Jour. Sci., C. Bot. 8: 391. 1913.

On Meliaceae: Sandoricum.

Type locality: Luzon, Philippines, Baker 743.

Citations: 4, 301.

Specimens: Sydow, Fung. Exot. Exs. 380. Baker, Fungi Mal. 368.

Philippine Bur. Sci. 1234.

No. 55. *Irenina costi* n. sp.

Colony epiphyllous, 3—12 mm. in diameter, black, irregular. Mycelium tending to be straight and right-angled. Capitate hyphopodia alternate. Stalk cell short, 3—6  $\mu$ ; head cell regular, ovoid to cylindrical, 14  $\approx$  10  $\mu$ . Mucronate hyphopodia ampulliform, 8  $\approx$  25  $\mu$ .

Perithecial setae none. Mycelial setae none. Perithecia globose, 155—185  $\mu$ , smooth. Asci evanescent. Spores 4-septate, 40—43  $\approx$  16—18  $\mu$ .

Group number 3101. 4220. — Fig. 19.

On Zingiberaceae: Costus sp. Panama, Brazos Brook Reservoir, Sept. 22, 1924, 728a.

The specimen is heavily overgrown by parasites and on the lower side of the same leaves is another species of the Meliolineae.

No. 56. *Irenina aracearum* n. sp.

Colonies hypophyllous, small, 1—2 mm., circular. Mycelium close, straight, regular. Spot definite, about equalling the colony in size, brown. Capitate hyphopodia mostly alternate, crowded, 14  $\mu$  apart. Stalk cell short, 3—4  $\mu$ ; head cell oblong, 15  $\approx$  7  $\mu$ , often bent. Mucronate hyphopodia ampulliform.

Perithecial setae and mycelial setae none. Perithecia globose, smooth, 100—110  $\mu$ . Spores 4-septate, 36—39  $\approx$  14  $\mu$ , constricted.

Group number 3101—3220.

On Araceae: Dieffenbachia longispatha. Panama, Tapia, Aug. 15, 1923, 1021.

This species is noteworthy as the only one of the *Irene* group on the Araceae; indeed but very few have been recorded upon Monocotyledonous plants. It is also noteworthy on account of its distinctly parasitic nature.

No. 57. *Irenina lagunculariae* (Earle) n. comb.

*Meliola lagunculariae* Earle, Muhl. 1: 11. 1901.

*Irene lagunculariae* (Earle) Toro, Mycol. 17: 141. 1925.

*Amazonia lagunculariae* (Earle) Ryan, Mycol. 18: 107. 1926.

On Combretaceae: Laguncularia.

Type locality: Porto Rico, Heller 4361a.

Citations: 261\*, 215\*.

The conic roughenings in this species approach the structure of larviform appendages.

Specimen: Heller 6417.

New records: On Laguncularia. Panama, Fort Lorenzo trail, Oct. 10, 1924, 1050. Ft. Sherman, Sweetwater, Oct. 6, 1924, 1051. The colony in these specimens is larger and the capitate hyphopodia are somewhat shorter and thicker, than in the type.

Though placed by Miss Ryan in *Amazonia* on account of its mode of development, since the mature perithecium is globose I refer it to *Irenina*.

No. 58. *Irenina longipoda* (Gaillard) n. comb.

*Meliola longipoda* Gaillard, Bul. Soc. Mycol. France 8: 178. 1892.

*Meliola usteriana* Rehm, Annal. Mycol. 5: 523. 1907.

*Irene longipoda* (Gaillard) Toro, Mycol. 17: 141. 1925.

On Boraginaceae: Cordia 261, 29, 255, 331, 188; Tournefortia 84, 163, 261; Varronia 331. On Anonaceae: Anona 261. On Verbenaceae: Citharexylum 331 a.

Type locality: Banos, Ecuador, on Tournefortia.

Distribution: Ecuador 84, 163; Argentine 255; Porto Rico 29, 261; Brazil 188; Santo Domingo 331 a.

Citations: 84\*, 261\*, 215\*.

Specimens: Rehm, Ascom. 1875.

New records: — On Borraginaceae: Cordia heterophylla.

Panama, Corozal, Trail 17, Aug. 30, 1924, 132, Chiva-Chiva trail, Sept. 18, 1924, 614, Ft. Lorenzo Trail, Oct. 10, 1924, 1167, Las Cruces trail, Sept. 2, 1924, 139, Ft. Randolph, 100 feet hill trail, Sept. 23, 1924, 757, Bella Vista, Oct. 7, 1924, 1118, Paitilla Pt., Sept. 8, 1924, 368.

No. 59. *Irenina heudeloti* (Gaillard) n. comb.

*Meliola heudeloti* Gaillard, Le Gen. Mel. 49, 1892.

*Irene heudeloti* (Gaillard) Doidge, So. African Jour. Nat. Hist. 2: 40. 1920.

On Melastomaceae: Memecylon 83, 8. On Loganiaceae: Nuxia 45, 53, 18, 18b. On Verbenaceae: Clerodendron 51.

Type locality: Senegambia, Heudelot in year 1837, on Memecylon.

Distribution: Senegambia 83; India 8; South Africa 45; 51; 18, 18b.

Citations: 83\*; 45\*, 8\*.

Specimen: Doidge 1776.

The specific name was originally spelled as above but in many recent writings the "u" has been changed to "n". Due to the kindness of M. Arnaud I am informed that the type specimen bears two old labels each referring to M. Heudelot as the collector during his voyage in Senegambia in 1837.

Bal and Dutta (8) state that the perithecia have larviform appendages, but no other report agrees in this.

No. 60. *Irenina melastomacearum* (Spegazzini) n. comb.

*Meliola melastomacearum* Spegazzini, Bol. Acad. Nac. Cien. Cordoba 11: 495, no. 232. 1889.



*Irene melastomacearum* (Spegazzini) Toro, Mycol. 17: 142. 1925.

On Melastomataceae: 242, 83, 184, Clidemia 261, 331, 331a, Miconia 261, 29, 331a.

Type locality: Apiaty, Brazil 2485.

Distribution: Brazil 242, 83, 184; Porto Rico 261, 29, 331; Santo Domingo 331a.

Citations: 263\*, 261\*, 215.

Specimen: the type.

New records:—On Melastomataceae: *Arthrostemma campanulare*. Ecuador, Terecita, Oct. 30, 1924, 154; on *Clidemia hirta*. Ecuador, Terecita, Oct. 29, 1924, 67, Oct. 39, 1924, 164; Costa Rica, Siquirres, July 31, 1923, 686, Port Limon, Aug. 9, 1923, 820, 828. On *Clidemia neglecta*. Panama, Ft. Sherman, Sweetwater, Oct. 6, 1924, 1089, 1095.

On *Clidemia* sp. British Guiana, Tumatumari, July 10, 1922, 144. Coverdon, Aug. 8, 1922, 761; Costa Rica, Port Limon, Aug. 10, 1923, 874. On *Miconia lacera*. Panama, New Limon, Oct. 4, 1924, 1034; Ft. Lorenzo Trail, Oct. 10, 1924, 1177. On Melastomataceae indet. Panama, Chagres, 2—3 miles of Mouth, Aug. 23, 1923, 1313, Culebra, Oct. 2, 1924, 926; Costa Rica, Experiencia Farm, July 18, 1923, 522, 523, Columbiana, July 19, 1923, 567, Siquirres, July 30, 1923, 658; July 31, 1923, 682.

No. 61. *Irenina strophanthi* (Doidge) n. comb.

*Meliola strophanthi* Doidge, Trans. Roy. Soc. So. Africa 5: 729. 1917.

*Irene strophanthi* (Doidge) Doidge, So. African Jour. Nat. Hist. 2: 41. 1920.

On Apocynaceae: *Strophanthus*.

Type locality: Natal, South Africa Doidge 1781.

Citations: 45\*, 18b.

Specimen: Doidge 1781 (type).

No. 62. *Irenina escharoides* (Sydow, H.) n. comb.

*Irene escharoides* Sydow, H., Annal. Mycol. 24: 316. 1926.

On Apocynaceae: *Tabernaemontana*.

Type locality: San Pedro de San Ramon, Costa Rica 393a.

Specimen: the type.

No. 63. *Irenina prunicola* (Spegazzini) n. comb.

*Meliola prunicola* Spegazzini, An. Mus. Nac. Buenos Aires 32: 353. 1924.

On Rosaceae: *Prunus*.

Type locality: Argentine.

No. 64. *Irenina lsertiae* n. sp.

Colony indefinite, diffuse, 1—10 mm., amphigenous. Mycelium sinuous, 6  $\mu$  thick. Capitate hyphopodia alternate, antrorse. Stalk cell short, 3—6  $\mu$ ; head cell elliptical, 14  $\approx$  7  $\mu$ , sometimes slightly irregular or truncate. Mucronate hyphopodia ampulliform, 14—21  $\approx$  5—6  $\mu$ .

Perithecial setae none. Mycelial setae none. Perithecia globose, slightly rough, 140—150  $\mu$ , borne on disks. Asci evanescent. Spores 4-septate, 32—36  $\approx$  15  $\mu$ .

Group number 3101. 3220. — Fig. 20.

On Rubiaceae: *Isertia haenkeana*. Panama, France Field, Sept. 2, 1924, 220, Oct. 3, 1924, 982, Agua Clara Reservoir, Sept. 17, 1924, 552, Ft. Randolph, 100 feet hill trail, Sept. 23, 1924, 764, New Limon, Oct. 4, 1924, 1013, Bella Vista, Oct. 7, 1924, 1112, Ft. Lorenzo Trail, Oct. 10, 1924, 1149, Mandingo, Oct. 15, 1924, 1354. On *Psychotria* sp. Panama, France Field, Sept. 2, 1924, 172. On unknown host. Panama, France Field, Oct. 3, 1924, 1008, Ft. Sherman, Sweetwater, Oct. 6, 1924, 1092; Peru: Huacapistana, Dec. 6, 1924, 78.

There rarely occur ascending branches (up to 300  $\mu$  long) that appear quite like the mycelium except that they rise from the leaf and are almost devoid of hyphopodia. They are not of the nature of setae, and the few hyphopodia that they bear attest to their mycelial character. Occasional mycelial branches appressed to the leaf are almost devoid of hyphopodia.

This form differs from *I. glabra* in not having a crustose colony; from *I. plebeja* in the shape of its capitate hyphopodia. The numerous epiphyllous colonies are so heavily parasitized as to be sterile and to render certain determination impossible, but they apparently belong to this same species. Nos. 1008, 1354, 1112, and 220 bore only such epiphyllous colonies.

No. 65. *Irenina cubitella* (Stevens & Tehon) n. comb.

*Irene cubitella* Stevens & Tehon, Mycol. 18: 18. 1926.

On Leguminosae: *Cassia*.

Type locality: British Guiana, Stevens 193.

Distribution: Trinidad, British Guiana.

Citation: 266\*.

No. 66. *Irenina glabra* (Berkeley & Curtis) n. comb.

*Meliola glabra* Berkeley & Curtis, Jour. Linn. Soc. London 10: 392. 1869.

*Irene glabra* (Berkeley & Curtis) Doidge, So. African Journ. Nat. Hist. 2: 41. 1924.

*Irene glabra* (Berkeley & Curtis) Toro, Mycol. 17: 139. 1925.

On Rubiaceae: 12, 254; *Canthium* 83, 53, 45, 16, 18b; *Palicourea* 16, 254. On Solanaceae: 166, 83, 184. On Malpighiaceae: 166. On Palmae 217. On Compositae: *Mikania* 166, 184. On Verbenaceae: *Stachytarpheta* 83, *Verbena* 166; 184. On Velloziaceae: *Barbacenia* 166, 174. On Boraginaceae: 184; 331. On Anonaceae: 184. On Scrophulariaceae: 184. On Taxaceae: *Podocarpus* 184. On Sapindaceae: *Hypelate* 261, 254. On Euphorbiaceae: *Drypetes* 261. On Piperaceae 184, 331.

Type locality: Cuba, on Rubiaceae.

Distribution: South Africa 53, 45, 18b; Cuba 12, 83, 254, 16; Brazil 166; 83; 184; 334; Porto Rico 261, 331; Argentine 254.

Citations: 12, 32, 217, 83\*, 69\*, 45\*, 261\*, 255.

Specimens: Rab., Wint. & Pazsch., Fungi europ. 3849; Doidge 1780; Heller 4359a; Wright, Cuba, No. 2171.

Erroneously reported as this species was a fungus on a Rubiaceae host, later regarded as an *Asterina* (217).

New records: — On Sapindaceae: Ecuador, Terecita, Oct. 29, 1924, 81. No. 67. *Irenina hymenaeicola* (Frag. & Cif.) n. comb.

*Meliola hymenaeicola* Frag. & Cif., Bol. Soc. Esp. Nat. Hist. 26: 471. 1926. On Leguminosae: *Hymenaea courbaril*.

Type locality: Dominica, Ciferri 25—V.

Citation: 29 f\*.

No. 68. *Irenina tomentosa* (Winter) n. comb.

*Meliola tomentosa* Winter, Rev. Mycol. 7: 206. 1885.

*Irene tomentosa* (Winter) Theissen & Sydow, Annal. Mycol. 15: 461. 1917.

On Styracaceae: *Styrax* 313. On Rutaceae: *Zanthoxylon* 313.

Type locality: Paraguay, on unknown host.

Citations: 83\*, 313, 203.

Specimens: Rick, Fg. aust.-amer. 67.

No. 69. *Irenina aberrans* n. sp.

*Meliola tomentosa* Winter var. *calva* Rehm, Annal. Mycol. 5: 209. 1907.

Type locality: Brazil, on *Styrax*.

Specimen: the type of *M. tomentosa* var. *calva* from Dahlem, Ascom. no. 1707; Rick, Fung. aust.-amer. 67.

This variety was made by Rehm with the statement that hyphopodia "sind nicht aufzufinden".

The mycelium is thin, very irregular. Hyphopodia darker than the mycelium, irregularly angular, small, mostly  $7 \approx 14 \mu$ ; spores 4-septate,  $39-43 \approx 14-16 \mu$ ; perithecia  $-350 \mu$ , very rough.

This species is very characteristic and distinct and quite different from *I. tomentosa*. What appear to be strands of erect aerial non-hyphopodiate mycelium occasionally occur but they are not setae.

No. 70. *Irenina nigra* Stevens n. sp.

Colonies crustose, epiphyllous, black, punctiform, 1—2 mm. Mycelium dark, crooked,  $7-8 \mu$  thick. Capitate hyphopodia alternate, crowded. Stalk cell short, 3—4; head cell subglobose,  $14 \mu$ , to obovate,  $18 \approx 14 \mu$ , sometimes slightly lobed. Mucronate hyphopodia ampulliform,  $18 \mu$  long, base globose, neck straight.

Perithecial setae none. Mycelial setae none. Perithecia globose, rough with rounded projections,  $123-170 \mu$ . Asci evanescent. Spores 4-septate,  $32-36 \approx 14 \mu$ .

Group number 3101. 3220, — Fig. 21.

On unknown Cucurbitaceous host. Costa Rica, Peralta, July 11, 1923, 312.

No. 71. *Irenina clidemiae* n. sp.

Colony epiphyllous, black, circular, 1—3 mm. in diameter. Mycelium close, slightly but distinctly crooked, branches mostly at acute angles. Spot equal to the colony in size, visible through to the lower side of the leaf.

Capitate hyphopodia alternate, numerous. Stalk cell short, 3—5  $\mu$ ; head cell ovate, pyriform, or sometimes irregular, 11—15  $\mu$   $\simeq$  7—8  $\mu$ . Mucronate hyphopodia narrow, crooked.

Perithecial setae none. Mycelial setae none. Perithecia smooth, globose, 200  $\mu$ . Asci 2-spored, evanescent. Spores 4-septate. 36—39  $\mu$   $\simeq$  11—13  $\mu$ , strongly constricted.

Group number: 3101. 3220. — Fig. 22.

On Melastomataceae: Clidemia sp. British Guiana, Rockstone, July 13, 1922, 254; Trinidad, Cumuto, Aug. 16, 1922, 912.

Two species of the formula 3103. are listed on the Melastomataceae, *I. melastomacearum* Speg. and *I. heudelotii* Gail. From the latter the present species is distinguished by its smaller spores; from the former by its crooked mycelium and by the shape of the capitate hyphopodia. The present form is also distinctly parasitic which is not true of the other two.

No. 72. *Irenina glabroides* (Stevens) n. comb.

*Meliola glabroides* Stevens, Ill. Biol. Mono. 2: 18. 1916.

*Irene glabroides* (Stevens) Toro, Mycol. 17: 142. 1925.

On Piperaceae: Piper 261. On Guttiferae: Rheedia 251, Vismia 266. On Lauraceae: Nectandra 261, 331, 266. On Burseraceae: Ica 266. On Simarubaceae: Simaruba 261, Simaba 266. On Ochnaceae: Sauvagesia 261, 331, 29, 266. On Verbenaceae: Stachytarpheta 266, 261, Valerianodes 331. On Solanaceae: Solanum 261, Physalis 9. On Anonaceae: 266. On Meliaceae: 9. On Sapindaceae, Cupania 277a.

Type locality: Porto Rico, on Piperaceae, Piper. — Fig. 23.

Distribution: Trinidad 266; Porto Rico 261, 331, 29; Costa Rica 251, 277a. British Guiana 266; Trinidad 266. *on Samargenia sp. (Cochineal)*

Citation: 261\*.

The fungi reported under this name on such wide host range doubtless, with sufficient study, could be separated into numerous and well defined varieties.

New records: — On Piperaceae: Piper sp. Costa Rica, La Palma, July 8, 1923, 303. On Piper breve. Panama, France Field, Oct. 3, 1924, 1001, Brazos Brook Reservoir, Sept. 22, 1924, 752, Tapia, Aug. 15, 1923. On Piper villiramulum. Panama, Corozal, Trail 17, Aug. 30, 1924, 116, 117, Ft. Sherman, Sweetwater, Oct. 6, 1924, 1091. On Piper (persubulatum)? Panama, Ft. Sherman, Sweetwater, Oct. 6, 1924, 1076. These specimens all agree closely with the type material collected in Porto Rico. To the original description may be added that the perithecia rest upon a radiate subicle, poorly developed. Figures are published herewith of this species taken from the type material.

On Verbenaceae: Stachytarpheta. Ecuador, Terecita, Oct. 29, 1924, 157; Trinidad. St. Claire Aug. 15, 1922, 879; British Guiana, Kartabo, July 21, 1922, 496, Tumatumari, July 10, 1922, 129, Demarrara-Essequibo R. R., July 15, 1922, 392. On Citharexylum caudatum. Panama, France Field,



Oct. 3, 1924, 979. On Moraceae: *Olmedia aspera*. Panama, Ft. Sherman, Sweetwater, Oct. 6, 1924, 1065, 1068.

The perithecial subicles in this collection seem to show slight differences between this and *I. glabroides* and in view of its host relation it should perhaps be regarded as a separate species.

On Rutaceae: *Casimiroa tetrameria*. Costa Rica, El Alto, July 6, 1923, 233. The colonies appear quite the same as in the type material except that they are more scattered and the mycelial strands are slightly tortuous, whereas those of the type are relatively straight. On unknown species of the Araliaceae. British Guiana, Rockstone, July 13, 1922, 219. This specimen agrees well with the type material except that the mycelium is somewhat more crooked and more compact in growth habit.

No. 73. *Irenina glabroides* (Stevens) Stevens var. *schlegeliae* (Stevens) n. comb.

*Meliola glabroides* Stevens var. *schlegeliae* Stevens, Ill. Biol. Mono. 2: 20. 1916.

On Bignoniaceae: *Schlegelia*.

Type locality: Porto Rico, Stevens 8289.

No. 74. *Irenina anguriae* n. sp.

Colony epiphyllous, diffuse, indefinite, large, 1—10 mm., black. Mycelium not crooked, 5—8  $\mu$  thick. Capitate hyphopodia alternate, antrorse, retrorse or perpendicular, 28—65  $\mu$  apart. Stalk cell short, 3—7  $\mu$ ; head cell ovoid or slightly irregular or lobed, 18  $\approx$  11  $\mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae none. Perithecia globose when mature, 130  $\mu$  in diameter, rough with rounded conic protuberances 7  $\mu$  high, flat and radiate when young, on disks. Asci evanescent. Spores 4-septate, 39—41  $\approx$  14  $\mu$ .

Group number 3101. 4220. — Fig. 24.

On Cucurbitaceae: *Anguria* sp. British Guiana, Tumatumari, July 11, 1922, 205 (type); on unknown Cucurbitaceae. Panama, Gatun, Sept. 26, 1924, 834, Empire, Oct. 8, 1924, 1136; Costa Rica, Port Limon, Aug. 10, 1923, 854.

This species differs from *I. triloba* Wint. in the shape of the capitate hyphopodia and from *I. confragosa* Syd. in character of colony, size of spores and other characters.

No. 75. *Irenina scabra* (Doidge) n. comb.

*Meliola scabra* Doidge, Trans. Roy. Soc. So. Africa 7: 194. 1919.

*Irene scabra* (Doidge) Doidge, So. African Jour. Nat. Hist. 2: 40. 1920.

On Hamamelaceae: *Trichocladus*.

Type locality: Natal, South Africa, Emmett 9064.

Citation: 46\*.

Specimen: Union 9262 (compared with type).

No. 76. *Irenina calva* (Spegazzini) n. comb.

*Meliola calva* Spegazzini, Bol. Acad. Nac. Cienc. Cordoba 11: no. 233. 1889.

On Lauraceae: 242, 83, *Nectandra* 255, *Ocotea* 255.

Type locality: Apiahy, Brazil. 1881 no. 1483—1507.

Distribution: Brazil 242, 83; Argentine 255.

Citations: 263\*, 255.

Specimen: the type.

No. 77. *Irenina perseae* (Stevens) n. comb.

*Meliola perseae* Stevens, Ill. Biol. Mono. 2: 17. 1916.

*Irene perseae* (Stevens) Toro, Mycol. 17: 140. 1925.

On Lauraceae: *Persea*.

Type locality: Porto Rico, Stevens 8212.

Citations; 261\*.

Contrary to the opinion expressed by Spegazzini this is quite distinct from *I. calva*, particularly in its very irregular, crooked mycelium and its irregular hyphopodia.

No. 78. *Irenina cyrtandrae* (Stevens) n. comb.

*Irene cyrtandrae* Stevens, Bish. Mus. Bul. 19: 44. 1925.

On Gesneriaceae: *Cyrtandra*.

Type locality: Kauai, Hawaiian Islands, Stevens 481.

Citation: 264\*.

No. 79. *Irenina implicata* (Doidge) n. comb.

*Irene implicata* Doidge, Both. 1: 206. 1924.

On Loganiaceae: *Chilianthus*.

Type locality: Natal, South Africa, Doidge 17251.

Citation: 56\*.

No. 80. *Irenina confragosa* (Sydow, H. & P.) n. comb.

*Meliola confragosa* Sydow, H. & P., Leaf. Philippine Bot. 5: 1536. 1912.

*Irene confragosa* (Sydow, H. & P.) Sydow, H. & P., Annal. Mycol. 15: 195. 1917.

On Cucurbitaceae: *Trichosanthes* 294, 4, *Luffa* 4, 301.

Type locality: Palawan, Philippines 12625.

Citation: 294.

Specimens: the type, Phil. Bur. Sc. 8606.

No. 81. *Irenina combreti* n. sp.

Colonies epiphyllous, irregular, 1—4 mm. in diameter, black. Mycelium crooked, pale. Capitate hyphopodia alternate. Stalk cell short, 3—4  $\mu$ ; head cell ovate to irregular. Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae none. Perithecia globose, smooth, —110  $\mu$ , from alveolar disks. Asci evanescent. Spores 4-septate, 43  $\approx$  18  $\mu$ . Group number 3101. 4220. — Fig. 25.

On Combretaceae: *Combretum farinosum*. Panama, Culebra, Oct. 2, 1924. 952.

No. 82. *Irenina longipedicellata* n. sp.

Colonies hypophyllous, indefinite, black, dense, 3—12 mm. in diameter. Mycelium very crooked, black, densely woven. Capitate hyphopodia alternate.

Stalk cell long, 14—18—36  $\mu$ ; head cell large, 18—22  $\approx$  10—14  $\mu$ , very irregular, from ovate to cylindrical to variously angled. Mucronate hyphopodia few.

Perithecial setae none. Mycelial setae none. Perithecia globose, smooth, 180  $\mu$  in diameter. Spores 4-septate, strongly constricted, 36  $\approx$  12  $\mu$ .

Group number 3101. 3220. — Fig. 26.

On Dilleniaceae. British Guiana, Kartabo, July 24, 1922, 672.

The capitate hyphopodia in this form are most remarkable in their size and variability, especially in the length of the stalk cell which in one case was seen to be 86  $\mu$  long, and resembled a hypha except that it was straight not crooked as is the usual mycelium. Though this species is here recorded as devoid of mycelial setae there are occasional short simple mycelial endings that somewhat resemble setae and perhaps should be so regarded.

No. 83. *Irenina lagerheimii* (Gaillard) n. comb.

*Meliola lagerheimii* Gaillard, Le Gen. Mel. 49. 1892.

*Irene lagerheimii* (Gaillard) Theissen & Sydow, Annal. Mycol. 15: 461. 1916.

On Aquifoliaceae: Ilex.

Type locality: Quito, Ecuador.

Citations: 181, 83\*, 162.

Specimen: Rehm, Ascom. 1048.

No. 84. *Irenina cheirodendronis* (Stevens) n. comb.

*Irene cheirodendronis* Stevens, Bisp. Mus. Bul. 19: 44. 1925.

On Araliaceae: Cheirodendron.

Type locality: Kauai, Hawaiian Islands, Stevens 1165.

Citation: 264\*.

No. 85. *Irenina trachylaena* (Sydow, H.) n. comb.

*Irene trachylaena* Sydow, H., Annal. Mycol. 24: 318. 1926.

On Rutaceae: Zanthoxylum elephantiasis.

Type locality: San Ramon, Costa Rica, 114.

Specimen: the type. Fig. 27.

New record: On Rutaceae: Zanthoxylum limoncello. Costa Rica, Cartago, July 2, 1923, 184

The dense, crustose colony and the very irregular capitate hyphopodia are characteristic.

No. 86. *Irenina cubitorum* (Stevens & Tehon) n. comb.

*Irene cubitorum* Stevens & Tehon, Mycol. 18: 19. 1926.

On Leguminosae: Dimorphandra.

Type locality: British Guiana, Stevens 810.

Citation: 266\*.

No. 87. *Irenina subapoda* (Sydow, H. & P.) n. comb.

*Meliola subapoda* Sydow, H. & P., Annal. Mycol. 12: 547. 1914.

On Euphorbiaceae: Mallotus.

Type locality: Bulacan, Philippines, Bur. Sc. 21824.

Specimen: the type.

The hypophodia are of such character that they suggest strong relationship with *Meliolina*.

No. 88. ***Irenina ditricha*** (Kalchbrenner & Cooke) n. comb.

*Asterina ditricha* Kalchbrenner & Cooke, Grev. **9**: 32. 1880.

*Meliola ditricha* (Kalchbrenner & Cooke) Doidge, Trans. Roy. Soc. So. Africa **5**: 728. 1917.

*Irene ditricha* (Kalchbrenner & Cooke) Doidge, So. African Jour. Nat. Hist. **2**: 41. 1920.

On Celastraceae: Celastrus 127, 45, 51, Pleurostyliia 51, Gymnosporia 9.  
On Oleaceae: Olea 9, 51, 55.

Type locality: Natal, South Africa, Wood 3, 1876, on Celastrus.

Citations: 45\*, 317, 316.

No. 89. ***Irenina gymnosporiae*** (Sydow, H. & P.) n. comb.

*Meliola gymnosporiae* Sydow, H. & P., Annal. Mycol. **10**: 79. 1912.

On Celastraceae: Gymnosporia.

Type locality: Manila, Philippines, Merrill 7422.

Citations: 294, 4, 354.

Specimen: the type.

No. 90. ***Irenina atra*** (Doidge) n. comb.

*Meliola atra* Doidge, Trans. Roy. Soc. So. Africa **8**: 137. 1920.

*Irene atra* (Doidge) Doidge, So. African Jour. Nat. Hist. **2**: 40. 1920.

On Myrtaceae: Eugenia.

Type locality: Natal, South Africa.

Citation: 51\*.

Specimen: Doidge 12436.

No. 91. ***Irenina zeyheri*** (Doidge) n. comb.

*Irene zeyheri* Doidge, Bothalia **1**: 75. 1922.

On Myrtaceae: Eugenia.

Type locality: Natal, South Africa, Doidge 12388.

Specimens: the type, Doidge 12272.

No. 92. ***Irenina obducens*** (Gaillard) n. comb.

*Meliola obducens* Gaillard, Bull. Soc. Mycol. France **8**: 179. 1892.

On Loganiaceae: Buddleya 83, 163. On Piperaceae: 184.

Type locality: Ecuador, on Buddleya.

Distribution: Ecuador, 163, 84; Brazil 184.

Citation: 84\*.

No. 93. ***Irenina triloba*** (Winter) n. comb.

*Meliola triloba* Winter, Hedw. **25**: 95. 1886.

*Irene triloba* (Winter) Theissen & Sydow, Annal. Mycol. **15**: 461. 1917.

*Irene triloba* (Winter) Stevens, Bish. Mus. Bul. **19**: 44. 1925.

On Urticaceae: Pilea 331, 261, Pipturus 264. On Cucurbitaceae: 348, 349, 83.

Type locality: St. Thomas, Africa, on Cucurbitaceae.



Distribution: Porto Rico 331, 261; Hawaii 264; Africa 348, 349, 83.

Citations: 348\*, 261\*, 215.

Specimen: Heller 558.

No. 94. *Irenina rinoreae* (Doidge) n. comb.

*Irene rinoreae* Doidge, Bothalia 1: 81. 1924.

On Violaceae: Rinorea.

Type locality: Natal, Africa, Doidge 14961.

Specimen: the type.

No. 95. *Irenina seminata* (Berkeley & Curtis) n. comb.

*Meliola seminata* Berkeley & Curtis, Cuban Fungi 885.

*Meliola glabra* Berkeley & Curtis var. *psychotriae* Stevens, Ill. Biol. Mono.

2: 14. 1916.

On Rubiaceae: Palicourea 261, 254, Psychotria 261, Coccoecypselum 261.

Type locality: Cuba, on Palicourea.

Distribution: Cuba, Porto Rico, 261, Argentine 254.

Citation: 254.

This species was by Gaillard regarded as identical with *I. glabra*. Spegazzini, however, regards these as distinct, while my variety, *psychotriae*, is clearly distinct from *I. glabra*.

No. 96. *Irenina crustacea* (Spegazzini) n. comb.

*Meliola crustacea* Spegazzini, Bol. Acad. Nac. Cien. Cordoba 11: no. 255. 1889.

*Irene crustacea* (Spegazzini) Theißen & Sydow, Annal. Mycol. 15: 461. 1917.

*Irene subcrustacea* (Spegazzini) Theißen & Sydow, Annal. Mycol. 15: 461. 1917.

*Meliola subcrustacea* Spegazzini, Bol. Acad. Nac. Cien. Cordoba 11: no. 236.

On Magnoliaceae: Drymis 242, 83, 313. On Myrsinaceae: Myrsine 313.

Type locality: Apiahy, Brazil, on Drymis.

Citations: 263\*, 312.

Specimens: the type and the type of *M. subcrustacea*.

Theißen (312) regards *Meliola crustacea* Speg. and *Meliola subcrustacea* Speg. as the same though both Gaillard and Spegazzini compared the types of the two and recognized them as two species.

No. 97. *Irenina morototoni* (Spegazzini) n. comb.

*Meliola morototoni* Spegazzini, An. Mus. Nac. Buenos Aires 32: 360. 1924.

On Araliaceae: Didymopanax.

Type locality: Argentine.

Specimen: the type.

No. 98. *Irenina vilis* (Sydow, H. & P.), n. comb.

*Meliola vilis* Sydow, H. & P., Leaflet. Philippine Bot. 6: 1926. 1913.

*Irene vilis* Sydow, H. & P., Annal. Mycol. 15: 195. 1917.

On Verbenaceae: Callicarpa.

Type locality: Mindanao, Philippines, 13442.

Citations: 202, 4, 5.

Specimens: Baker, Fungi Mal. 257, Phil. Bur. Sc. 26756.

No. 99. *Irenina pseudanastomosans* (Rehm) n. comb.

*Meliola pseudanastomosans* Rehm, Hedw. 35: (150). 1896.

On Leguminosae: Psoralea.

Type locality: Ecuador.

Specimens: The type. Rab., Wint. & Pazsch. Fung. europ. 3847.

No. 100. *Irenina atricha* n. sp.

*Meliola laxa* Gaillard var. *atricha* Spogazzini, An. Mus. Nac. Buenos Aires 32: 355. 1924.

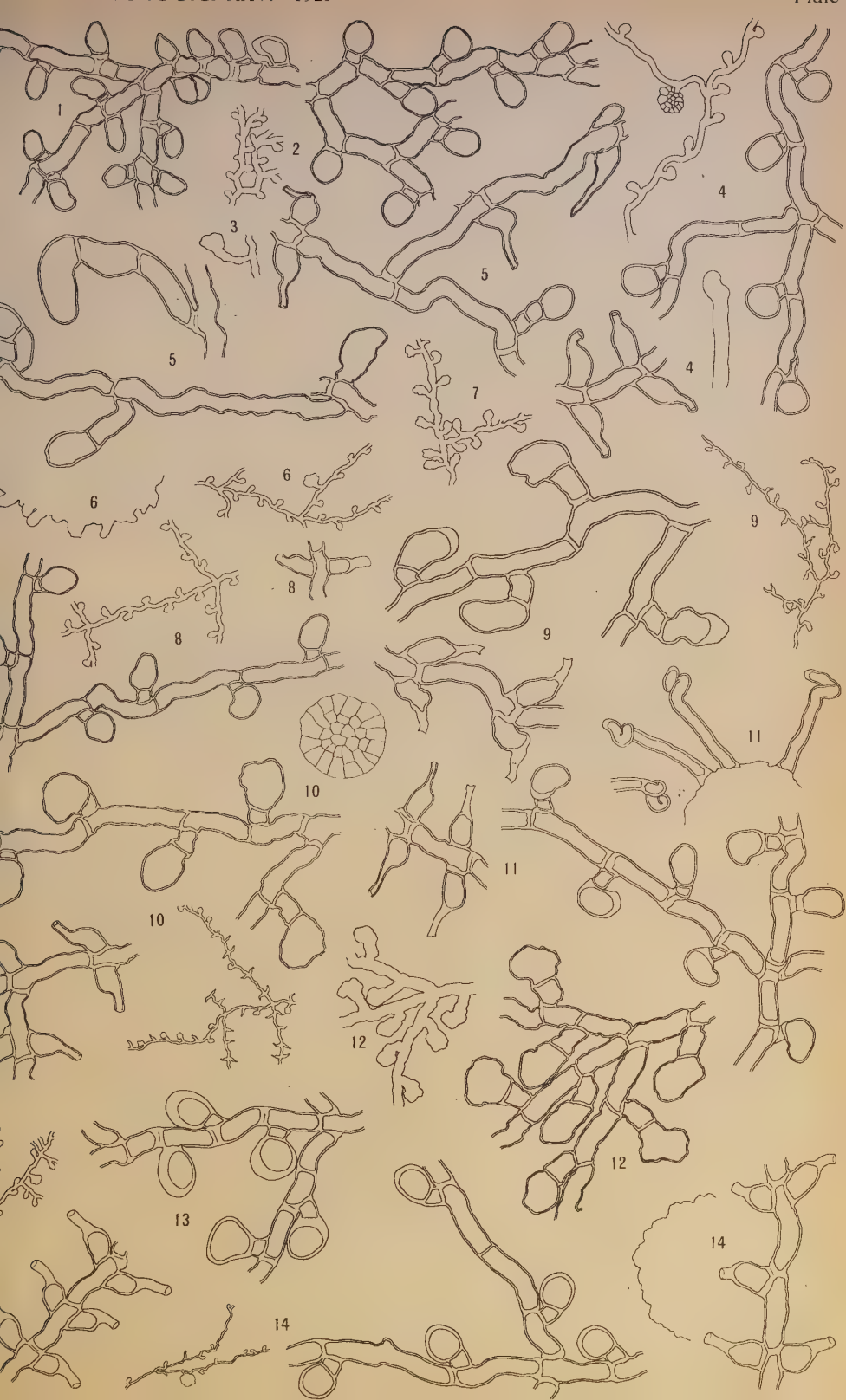
On Myrtaceae: Eugenia.

Type locality: Loreto, Argentine.

### Explanation of Figures (Plates I—II).

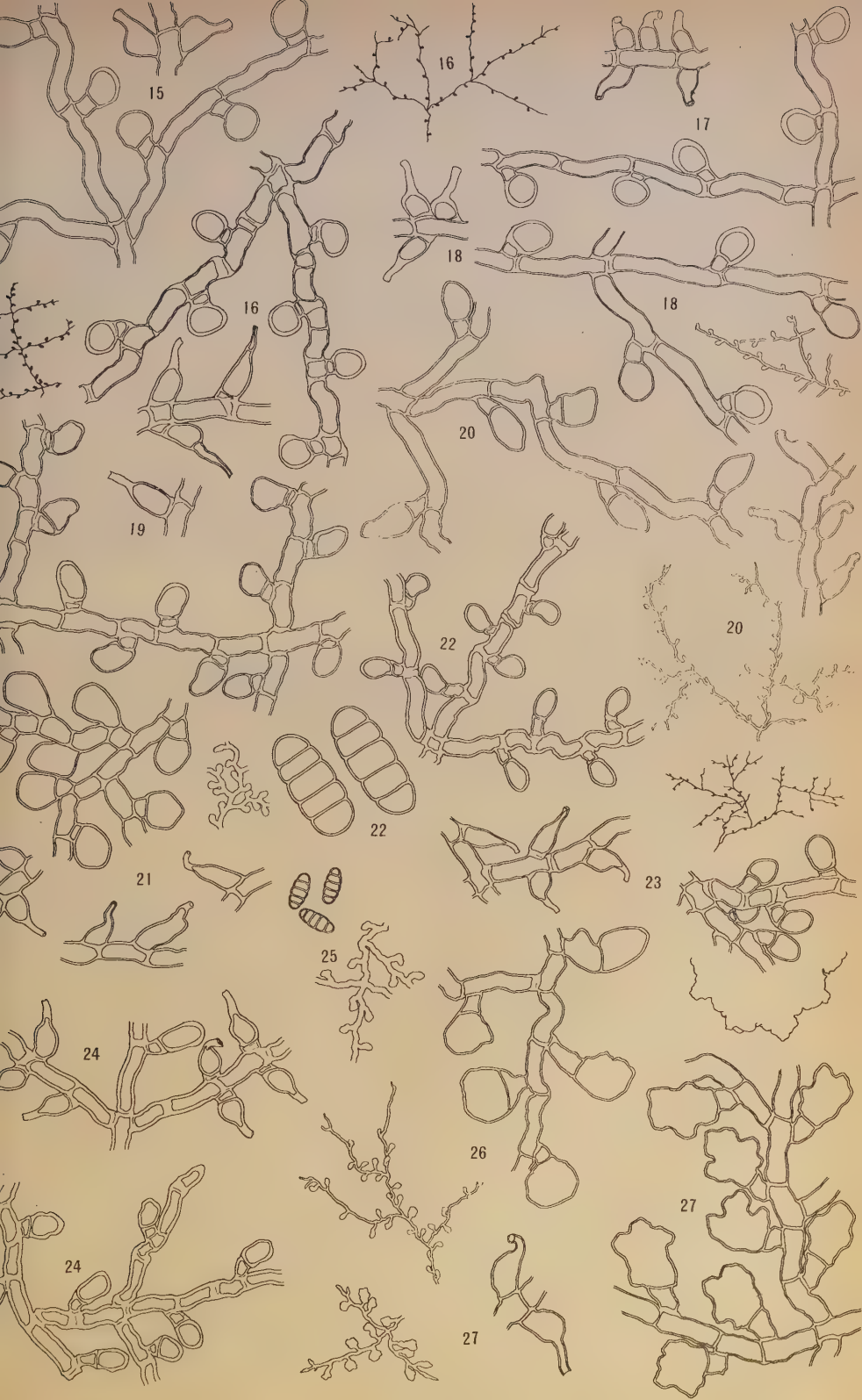
- Fig. 1. *Amazonia anacardiacearum*, mycelium and hyphopodia, from the type.
- " 2. *Amazonia peregrina*, mycelium and hyphopodia, low and high power, from the type.
- " 3. *Meliolina philippinensis*, a structure resembling a hyphopodium, from the type.
- " 4. *Irene sororcula* var. *vernoniae*, mycelium, low and high power, with capitate hyphopodia and mucronate hyphopodia, a setal tip, from the type.
- " 5. *Irene echinus*, mycelium and hyphopodia from Ule 57.
- " 6. *Irene tonkinensis* var. *cecropiae*, mycelium and perithecial surface, from the type.
- " 7. *Irenopsis portoricensis*, mycelium and hyphopodia, from the type.
- " 8. *Irenopsis coronata* var. *triumfettae*, mycelium and hyphopodia, from the type.
- " 9. *Irenopsis costaricensis*, mycelium and hyphopodia, from the type.
- " 10. *Irenopsis conostegiae*, mycelium and hyphopodia, also a disk, from the type.
- " 11. *Irenopsis tortuosa*, mycelium and hyphopodia, perithecial setae, from No. 235.
- " 12. *Irenina pinicola*, mycelium and hyphopodia, from the type.
- " 13. *Irenina delechampiae*, mycelium and hyphopodia, from the type.
- " 14. *Irenina calubrinae*, mycelium and hyphopodia, and perithecial surface, from the type.
- " 15. *Irenina shropshiriana*, mycelium and hyphopodia, from the type.
- " 16. *Irenina parasitica*, mycelium and hyphopodia, low and high power, from the type.
- " 17. *Irenina meibomiae*, mycelium and hyphopodia, from the type.
- " 18. *Irenina obscura*, mycelium and hyphopodia, from the type.
- " 19. *Irenina costi*, mycelium and hyphopodia low and high power, from the type.
- " 20. *Irenina isertiae*, mycelium and hyphopodia, low and high power, from No. 1092.
- " 21. *Irenina nigra*, mycelium and hyphopodia, low and high power, from the type.
- " 22. *Irenina clidemiae*, mycelium and hyphopodia, two spores, from the type.
- " 23. *Irenina glabroides*, mycelium and hyphopodia, low and high power, perithecial surface, from the type.
- " 24. *Irenina anguriae*, mycelium and hyphopodia, from the type.
- " 25. *Irenina combreti*, mycelium and hyphopodia, three spores, from the type.
- " 26. *Irenina longipedicellata*, mycelium and hyphopodia, low and high power, from the type.
- " 27. *Irenina trachylaena*, mycelium and hyphopodia, from No. 184.











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22

## The Meliolineae II.

By F. L. Stevens.

**Meliola** Fries, Systema orb. veg. 111. 1825. Emend. Bornet, Ann. Sci. Nat. Bot. Sér. 3, 16: 257. 1851.

Mycelium superficial, hyphopodiate, mycelium setose, perithecium with or without setae, but with no larviform appendages. Spores dark, 2, 3 or 4-septate.

*M. amphitricha* has long been regarded as the type of the genus, but for what appear to me to be sufficient reasons Arnaud (2) regards the designation of this as the type as impossible and he suggests as a pseudo-type *M. hibisci*. This selection also appears to me to be unwise for much the same reasons that led to discarding *M. amphitricha*, i. e., *M. hibisci* has not been adequately described, no type is known nor is there known to me any member of the Meliolineae, with mycelial setae, on Hibiscus or indeed on any of the Malvaceae.

Though we cannot point to any properly designated or described type for the genus there appears to be no doubt of its characters as conforming to the above diagnosis.

### Key to Groups of the Genus Meliola.

Spores 2—3-septate, 3-septate, or 3—4-

septate,  $\frac{1}{2}$ --- or 2--- or  $\frac{3}{2}$ --- . . . group 1, Nos. 1—16, p. 166.

Spores 4-septate

Perithecia setose, 34-- or 3 $\frac{1}{4}$ -- . . . group 2, Nos. 17—37, p. 170.

Perithecia not setose

Ms. branched, 314- or 31 $\frac{3}{4}$ - . . . group 3, Nos. 38—76, p. 174.

Ms. dentate, 313- . . . . . group 4, Nos. 77—135, p. 185.

Ms. simple or dentate, 31 $\frac{3}{2}$ - or 31 $\frac{1}{2}$ -

or 31 $\frac{1}{2}$ - . . . . . group 5, Nos. 136—182, p. 200.

Ms. uncinata, 312- or 31 $\frac{1}{2}$ - . . . group 6, Nos. 183—202, p. 212.

Ms. not as above

Ch. alternate or opposite, 3113 . . . group 7, Nos. 203—236, p. 218.

Ch. opposite, 3112 . . . . . group 8, Nos. 237—272, p. 224.

Ch. alternate

Setae obtuse, 3111 . . . . . group 9, Nos. 273—391, p. 233.

Setae obtuse or acute, 3111 . . . group 10, Nos. 392—408, p. 263.

Setae acute, 3111 . . . . . group 11, Nos. 409—499, p. 266.



Conspectus of Group 1, *Meliola*.

## Spores 2—3-septate

- ‡111. 53—3, hc. usually tuberculate or lobed,  
on Taxaceae . . . . . *peltata* No. 1.

## Spores 3-septate

## Ms. uncinata

2121. 6342, s. 300—400  $\mu$ , obtuse, hc. globose,  
on unknown host . . . . . *wainioi* No. 2.

## Ms. not uncinata, simple

## Ch. opposite or alternate

2113. 3222, s. 250—320  $\mu$ , obtuse, hc. cylindric, on Euphorbiaceae . . . . . *insignis* No. 3.

## Ch. opposite

2112. 5324, s. 500—1500  $\mu$ , hc. clavate, on  
Flacourtiaceae . . . . . *tonduzi* No. 4.

## Ch. alternate

## S. obtuse

2111. 6332, s. 300—460  $\mu$ , hc. globose, on  
Icacinaceae . . . . . *villaresiae* No. 5.

2111. 5232, s. 250—320  $\mu$ , hc. lobed, pedicel  
24—28  $\mu$ , on Icacinaceae . . . . . *campylotricha* No. 6.

2111. 6232, s. 400—500  $\mu$ , hc. globose, on  
Cornaceae . . . . . *nidulans* No. 7.

2111. 5232, s. 300—400  $\mu$ , hc. cylindric,  
uncinate or ovate, irregularly lobed, on  
Celastraceae . . . . . *evansii* No. 8.

2111. 533—, hc. globose, lobed and irregular,  
on Ericaceae . . . . . *niessleana* No. 9.

## S. acute

2111. 4232, s. 200—360  $\mu$ , hc. irregular,  
on Cornaceae . . . . . *ganglifer-a* No. 10.

2111. 4231, colony large, s. 200—300  $\mu$ ,  
hc. globose, on Nyctaginaceae . . . . . *pulchella* No. 11.

2111. 4221, s. 200—250  $\mu$ , hc. irregular and  
lobed, on Staphyleaceae . . . . . *oligomera* No. 12.

2111. 4233, s. 150—600  $\mu$ , hc. lobed, on  
unknown host . . . . . *guaranitica* No. 13.

2111. 6341, s. 200—300  $\mu$ , hc. globose or  
lobed, on Proteaceae . . . . . *lanosa* No. 14.

## Ch. and setae not described

- 21—, 632—, on Aquifoliaceae . . . . . *ilicis* No. 15.

## Spores 3—4-septate

- ‡111. 4231, s. 100—150  $\mu$ , obtuse, ch.  
ovoid, on Malpighiaceae . . . . . *stuhlmanniana* No. 16.

No. 1. *Meliola peltata* Doidge, Trans. Roy. Soc. So. Africa 5: 727. 1917.

On Taxaceae: Podocarpus.

Type locality: Natal, South Africa, Pienaar 2436.

Citations: 45\*, 51, 55\*, 18.

Specimens: Doidge 11551, 2436 (type).

The spores are given in the original description as "3-septate, occasionally 2-septate" this being one of the very rare occurrences in which there is variation in spore septation in the Meliolineae.

This species is quite distinct from all others and except for its hyphopodia the thallus would be regarded as of the Microthyriaceae.

No. 2. *Meliola wainioi* Patouillard, Jour. Bot. (Paris) 4: 200. 1890.

On unknown host.

Type locality: Brazil, Wainio 1121.

Citation: 83\*.

No. 3. *Meliola insignis* Gaillard, Le gen. Mel. 44. 1892.

On Euphorbiaceae: Mallotus 198, 4.

Type locality: Sumatra, Forbes 3048.

Distribution: Sumatra 5, 83; Philippines 198, 4.

Citations: 83\*, 116.

Specimen: Phil. Bur. Sci. 905.

No. 4. *Meliola tonduzi* Spegazzini, Bol. Acad. Nac. Cien., Cordoba, 23: 190, No. 452. 1919.

On Flacourtiaceae: Xylosma.

Type locality: Costa Rica.

No. 5. *Meliola villaresiae* Hennings, Hedw. 36: 218. 1907.

On Icacinaceae: Villaresia.

Type locality: Brazil 22713, Glaziou.

Specimens: the type 22712.

Colonies densely black, velvety with numerous setae; hyphopodia alternate, oval, large, 22  $\mu$ ; setae 300—460  $\mu$  long, 11  $\mu$  thick, dark, crooked, obtuse. Perithegium —230  $\mu$  in diameter, spores 3-septate.

No. 6. *Meliola campylotricha* Sydow, H., Ann. Mycol. 22: 420, 1924.

On Icacinaceae: Apodytes.

Type locality: So. Africa, van der Byl 1515.

Citation: 18b.

No. 7. *Meliola nidulans* (Schweinitz) Cooke, Grev. 11: 37. 1882.

*Sphaeria nidulans* Schweinitz, Syn. Fungi Car.: 45, no. 185. 1882.

*Chaetosphaeria nidulans* (Schweinitz) Rehm, Ascom. 287.

*Meliola ellisii* Roum. Fung. Exsic. 896 and Rev. Mycol. 2: 200. 1880.

*Meliola nidulans* (Schweinitz) Cooke var. *germanica* Rehm in Krieger, Fung. Sax., 1611.

*Meliola sudetica* Niessl in herb.

On Cornaceae: Cornus 230, 83, 174. On Ericaceae: Vaccinium 83, 64, 150, 151, 121, 340, 341, 207, 61.

Type locality: Georgia, U. S. A. on *Cornus*. Fig. 1.

Distribution: So. U. S. A. 230, 83, 64, 174, 207, 61; Germany, France, Sweden 121, 151.

Citations: 73, 83\*, 151\*, 280, 153, 149, 2\*.

Specimens: Ellis & Everhart, *N. Amer. Fungi* 192; Rab., Wint. & Pazsch., *Fungi europ.* 3544, 3339; Rav., *Fungi Car. I.* 50; Ellis & Everhart, *Fungi Col.* 24; Roum., *Fungi Sel. Gall. Exs.* 896 sub *Meliola ellisii*; Jaap, *Fungi Sel. Exs.* 186; Syd. *Myc. ger.* 377; Ellis & Everhart *Fungi Col.* 1546.

The variety *M. nidulans* var. *germanica* was set up by Rehm on account of constriction of the spores, but this was superfluous as was remarked by Weese (340), since the type also shows spores somewhat constricted. Although Weese holds that *M. nidulans* and *M. niessleana* should be considered as co-specific this does not seem to be borne out by examination of various specimens since *M. nidulans* is of dense crustose colony with small regular hyphopodia with a subglobose headcell while *M. niessleana* has a much more loose colony and the hyphopodia are large and irregular.

No. 8. *Meliola evansii* Doidge, *Trans. Roy. Soc. So. Africa* 8: 112. 1920.

On Celastraceae: *Celastrus* 48, *Mystroxydon* 48, *Elaeodendron*. On Flacourtiaceae: *Scolopia* 55.

Type locality: Natal, South Africa.

Citations: 48\*, 55\*.

Specimens: Union, So. Africa 9067, type.

No. 9. *Meliola niessleana* Winter, *Hedw.* 24: 260. 1885.

On Ericaceae: *Rhododendron* 346, 83, 150, *Vaccinium* 232.

Type locality: Germany, on *Rhododendron*.

Distribution: Germany 346, 150, 83; Costa Rica 260.

Citations: 83\*, 232\*, 2\*, 153, 180.

Specimens: Rehm, *Ascom.* 898.

New records: On *Cavendishia*. Costa Rica: Cartago, June 23 1923, 54, 66. The spores in this specimen are somewhat larger than hitherto reported, viz.  $60-68 \approx 25 \mu$ , but agree otherwise with previous specimens. Its formula is 2111. 6343. *M. pulchella* Speg., as is shown by examination of the type specimen, differs from the specimen of *M. nidulans* cited above both in type of colony and in shape of head cells. It differs also essentially from my specimen in the same respects.

No. 10. *Meliola gangliifera* Kalchbrenner & Cooke, *Grev.* 9: 34. 1880.

On Cornaceae: *Curtisia* 127, 83, 51, 313, 45, 18. On Hippocrateaceae: *Hippocratea* 83, 313.

Type locality: South Africa, on *Curtisia*.

Distribution: South Africa 127, 83, 51, 45, 313, 18, 18b, 180; Paraguay 347, 83; Ceylon, India 83, 313; Brazil 312, 313.

Citations: 127\*, 83\*, 45\*.

Specimens: Doidge 9560 (compared with type), 9457, Kew 1953.

No. 11. *Meliola pulchella* Spegazzini, Bol. Acad. Nac. Cien., Cordoba, 11: no. 227. 1889.

On Myrtaceae 242. On Nyctaginaceae; Pisonia 251. On Ericaceae: Gaylussacia 83, 166.

Type locality: Apiahy, Brazil 1699, on Myrtaceae.

Distribution: Brazil 242, 166, 83; Paraguay 251.

Citations: 263\*, 83\*.

Specimen: the type.

No. 12. *Meliola oligomera* Sydow, H. & P., Annal. Mycol. 15: 190. 1917.

*Meliola reinkingii* Sydow, H. & P., Annal. Mycol. 18: 98. 1920.

On Staphyleaceae: Turpinia. On Hippocrateaceae: Hippocratea.

Type locality: Luzon, Philippines, Bur. Sc. 23882, Ramos, on Turpinia.

Specimen: Phil. Bur. Sci. 23882.

The descriptions of this and *M. reinkingii* agree almost absolutely and their identity is accepted by Sydow.

No. 13. *Meliola guaranitica* Spegazzini, An. Soc. Cient. Argentine 21: no. 177, p. 71. 1883.

On Rutaceae. On Sapindaceae: 251. On Hippocrateaceae: Salacia 255, 254a.

Type locality: Guarapi; Brazil 3781, on unknown host.

Distribution: Brazil 236, 210, 241, 243, 207; Argentine 255; Paraguay 243, 254a.

Citation: 263\*.

Specimens: the type, Roum. Fungi Sel. Gall. Exs. 4130.

Though various authors (83) have held that this and *Meliola ganglifera* are identical, Spegazzini (255), the author of both species points out several essential differences.

No. 14. *Meliola lanosa* Patouillard, Rev. Mycol. 10: 136. 1888.

*Meliola funerea* McAlpine, Proc. Linn. Soc. N. So. Wales 21: 104. 1896.

*Meliola macrocarpa* Montagne, in herb. mus. Paris, pro parte.

*Meliola negeriana* Sydow, H. & P., Annal. Mycol. 2: 170. 1904.

On Proteaceae: Lomatia 154, Grevillea 136, Telopea.

Distribution: Chile 154, 83, 279; Argentine 255; South Africa; New South Wales 136.

Citations: 154\*, 83\*, 136\*, 133\*.

Specimens: the type, the type of *M. funerea*.

Examination of the type of *M. funerea* shows numerous setae, black, obtuse, coarse, 9—11  $\mu$ , —540  $\mu$ , mycelium dense, very crooked. Perithecium —200  $\mu$ , ch. very irregular, lobed.

No. 15. *Meliola ilicis* Hennings, Bot. Jahrb. (Engler) 17: 523. 1893.

On Aquifoliaceae: Ilex.

Type locality: Brazil, Regnell 835.

This fungus is provisionally placed here though with no description of the setae or hyphopodia its position is uncertain.



- No. 16. *Meliola stuhlmanniana* Hennings, Bot. Jahrb. (Engler) **34**: 45. 1904.  
On Malpighiaceae: Acridocarpus 99, Byrsonima 331a.  
Type locality: Africa.  
Distribution: Africa 99; Santo Domingo 331a.

### Conspectus of Group 2, *Meliola*.

#### Ms. branched

3441. 5321, ps. simple, 450  $\mu$ , hc. oval, ms.  
180—220  $\mu$ , forked, pr. br. 70—100  $\mu$ , di-  
vergent, on Araliaceae . . . . . *heteroseta* No. 17.  
3441. 4224, ps. 250—2000  $\mu$  long, on Apo-  
cynaceae . . . . . *willoughbyae* No. 18.

#### Ms. dentate

3431. 5324, ms. 1000—1700  $\mu$ , 2-several denti-  
culate, ps. 250—500  $\mu$ , furcate, on Magno-  
liaceae . . . . . *diplochaeta* No. 19.

#### Ms. entire or dentate

##### Ch. opposite or alternate

- 34 $\frac{1}{3}$ 3. 3222, ms. 400  $\mu$ , acute or bi, trifurcate,  
ps. same, on unknown host . . . . . *mattogrossensis* No. 20.

##### Ch. alternate

- 34 $\frac{1}{2}$ 1. 3121, ms. & ps. 150  $\mu$ , rough or short-  
bifid, on Piperaceae . . . . . *contorta* No. 21.

#### Ms. entire

##### Ch. alternate or opposite

3413. 4222, ms. & ps. 220—400  $\mu$ , acute, on  
Sapindaceae . . . . . *acrotricha* No. 22.

##### Ch. opposite

3412. 4222, ms. 300—350  $\mu$ , obtuse, ps. 200  
—350  $\mu$ , obtuse, on Malpighiaceae . . . *byrsonimima* No. 23.  
3412. 5332, ms. 260—420  $\mu$ , ps. 250  $\mu$ , on  
Araliaceae . . . . . *pectinata* No. 24.  
3412. 4221, ms. & ps. 150—260  $\mu$ , obtuse, on  
Campanulaceae . . . . . *lobeliae* No. 25.

##### Ch. alternate

##### Setae obtuse

3411. 4133, hc. oblong or irregular, ps. &  
ms. 580  $\mu$ , on Ericaceae . . . . . *vaccinii* No. 26.  
3411. 3222, hc. ovate, ps. & ms. 300—400  $\mu$ ,  
on Dipterocarpaceae . . . . . *hopeae* No. 27.  
3411. 5123, hc. ovate or truncate, ms. 800  $\mu$ ,  
ps. 100  $\mu$ , twisted, on Rubiaceae . . . *mayaguesiana* No. 28.

## Setae acute

3411. 2120, col. 1—3 mm., arachnoid, hc.  
ovate, truncate or sublobed, ms. —200  $\mu$ ,  
acute, ps. —100  $\mu$ , obtuse, on Malvaceae *sidae* No. 29.
3411. 5233, hc. cylindrical, narrow, lobed,  
ms. 500—1000  $\mu$ , ps. 100—120  $\mu$ , spores  
not apiculate, on Cyperaceae . . . . *argentina* No. 30.
3411. 4223, hc. cylindrical, entire or lobed,  
bent, ms. 400—600  $\mu$ , ps. 130  $\mu$ , spores  
subapiculate, on Cyperaceae . . . . *circinans* No. 31.
3411. 5334, hc. oblong-irregular, ms. 900  
—1200  $\mu$ , ps. 100—180  $\mu$ , on Rutaceae . *juddiana* No. 32.
3411. 5223, hc. angular or lobed, ms. 770  $\mu$ ,  
ps. 150  $\mu$ , on Apocynaceae . . . . *moerenhoutiana* No. 33.
3411. 3223, hc. irregular-pyriform, ms. 650  $\mu$ ,  
ps. 50—90  $\mu$ , on Rubiaceae . . . . *kaduue* No. 34.
3411. 5323, hc. long, ms. 300—650  $\mu$ , ps. 200  
—300  $\mu$ , on unknown host . . . . *pennata* No. 35.

## Setae apices not described

3411. 4221, on Moraceae . . . . . *microtricha* No. 36.
3411. 3211, s. 200—270  $\mu$ , ch. globose, on  
Myrtaceae . . . . . *horrida* No. 37.

No. 17. *Meliola heteroseta* v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna)  
Math. Naturw. Kl. 118: 1169. 1909.

On Araliaceae: Paratropia.

Type locality: Java.

Specimens: the type, Phil. Bur. Sci. 28333.

No. 18. *Meliola willoughbyae* Zimmermann, Bul. Inst. Bot. Buitenzorg, no. 10:  
23. 1901.

On Apocynaceae: Willoughbya.

Type locality: Buitenzorg, Java.

The setae as described, to 2 mm. long, are very remarkable.

No. 19. *Meliola diplochaeta* Sydow, H. & P., Leaf. Phil. Bot. 5: 1536. 1912.

On Magnoliaceae: Talauma 291, 4.

Type locality: Palawan, Philippines 12790.

Specimen: Phil. Bur. Sci. 28333.

Citation: 353.

No. 20. *Meliola mattogrossensis* Starbäck, Ark. Bot. 2: no. 5: 10. 1904.

On unknown host.

Type locality: Matto Grosso, Brazil no. B. 524.

No. 21. *Meliola contorta* Stevens, III. Biol. Mono. 2: 32. 1916.

On Piperaceae: Piper.

Type locality: Porto Rico, Stevens 8225.

Citations: 261\*, 230a.

- No. 22. *Meliola acrotricha* Sydow, H., Leaf. Philippine Bot. **9**: 3113. 1925.  
On Sapindaceae: Trigonachras.  
Type locality: Sorsogon, Philippines 16426.  
Specimen: the type.
- No. 23. *Meliola byrsonimina* Stevens & Tehon, Mycol. **18**: 10. 1926.  
On Malpighiaceae: Byrsonima.  
Type locality: British Guiana, Stevens 106.  
Citation: 266\*.
- No. 24. *Meliola pectinata* v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna) Math. Naturw. Kl. **118**: 1170. 1909.  
On Araliaceae: Paratropia.  
Type locality: Java.
- No. 25. *Meliola lobelliae* Stevens, Bish. Mus. Bul. **19**: 29. 1925.  
On Campanulaceae: Clermontia.  
Type locality: Maui, Hawaiian Islands, Stevens 1154.  
Citations: 264\*, 215.
- No. 26. *Meliola vaccinii* Stevens, Bish. Mus. Bul. **19**: 30. 1925.  
On Ericaceae: Vaccinium.  
Type locality: Hawaii, Stevens 739.  
Citation: 264\*.
- No. 27. *Meliola hopeae* Yates, Philippine Jour. Sci., C. Bot. **13**: 369. 1918.  
On Dipterocarpaceae: Hopea.  
Type locality: Luzon, Philippines, Bur. Sci. 25774 Yates.  
Specimen: the type.
- No. 28. *Meliola mayaguesiana* Stevens, Ill. Biol. Mono. **2**: 32. 1916.  
On Rubiaceae: Palicourea.  
Type locality: Porto Rico, Stevens 7157.  
Citations: 261\*, 29, 230a.
- New records: On Psychotria sp. Ecuador, Terecita, Oct. 29, 1924. 66.  
This specimen agrees closely with the Porto Rican type material, especially in the crooked mycelium and the setae of two types. On Palicourea guianensis. British Guiana, Coverden. Aug. 8, 1922. 812. On Palicourea sp. British Guiana, Kartabo, July 22, 1922, 570. This material agrees very closely with the type specimens from Porto Rico.
- No. 29. *Meliola sidae* Rehm, Philippine Jour. Sci., C. Bot. **8**: 391. 1913.  
On Malvaceae: Sida.  
Type locality: Luzon, Philippines, Baker 117. Fig. 2.  
Citations: 199, 4, 5, 301.  
Specimens: Syd. Fung. Exot. Exs. 381. Baker, Fungi Mal. 255. Phil. Bur. Sci. 24066.
- No. 30. *Meliola argentina* Spegazzini, An. Soc. Cient. Argentina **9**: 177, no. 72. 1880.  
*Meliola cyperi* Patouillard, in Gaillard, Le Gen. Mel. 70. 1892.

On Cyperaceae: 234, 83, Cyperus 253, 83, 261, Scleria 261, Mariscus 261, Cladium 261, Scirpus 255, Vincentia 264, Gahnia 264, Rhynchospora 264, Baumea 264.

Type locality: Argentine.

Citations: 83\*, 215\*, 235, 263\*, 255, 230a.

Distribution: French Congo, Africa 83; Argentine 234, 83, 255; Porto Rico 253, 261; Hawaii 264.

Specimens: the type, Pat. Congo.

The really distinctive character of this fungus as described both by Patouillard and Spegazzini (255) rests in the setae of two kinds, mycelial 500—1000  $\mu$  long and the others from the lower portion of the perithecium and 100—120  $\mu$  long.

Though Spegazzini in his modesty and kindness argues (255) that the accurate description of Patouillard should give the name *Meliola cyperi* precedence over Spegazzini's much earlier name based on a less accurate description, I cannot agree with this and therefore use Spegazzini's name.

No. 31. *Meliola circinans* Earle, Bul. N. Y. Bot. Gard. 3: 304. 1905.

On Cyperaceae: Rhynchospora 58, 261, Cladium 254, Cyperus 9, Mariscus 261.

Type locality: Porto Rico, Heller 6384.

Distribution: Porto Rico 261, 58; So. U. S. A. 58; Argentine 254.

Citations: 215, 117, 230a.

Specimen: Heller 6384 (type).

New records: On Lagenocarpus tremulus. British Guiana, Rockstone, July 16, 1922, 436; Trinidad, Cumuti, Aug. 16, 1922, 907.

These specimens differ from those described by Earle in having somewhat larger spores ( $57 \approx 18 \mu$ ), in hyphopodia, and in longer mycelial setae (often 751  $\mu$ ). The subapiculate spores, however, are clearly distinctive. Specimen 907 is overgrown with Helminthosporium sp.

No. 32. *Meliola juddiana* Stevens, Bish. Mus. Bul. 19: 32. 1925.

On Rutaceae: Pelea.

Type locality: Hawaii, Stevens 986.

Citations: 264\*, 215\*.

No. 33. *Meliola moerenhoutiana* Montagne in Sagra Hist., Cuba, p. 327. 1842.

*Mehola alyxiae* Stevens, Bish. Mus. Bul. 19: 30. 1925.

On Apocynaceae: Alyxia stellata, 142. On Ericaceae: Vaccinium 264.

Type locality: Chile.

Distribution: Tahiti 142; Hawaii 264.

I place the synonymy as above on account of the host and geographic relations and regard my description of *M. alyxiae* as an emended description of *M. moerenhoutiana*.

No. 34. *Meliola kaduae* Stevens, Bish. Mus. Bul. 19: 30. 1925.

On Rubiaceae: Straussia, Gouldia.



Type locality: Oahu, Hawaiian Islands, Stevens 601.

Citations: 264\*, 215\*.

No. 35. *Meliola pennata* v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna) Math.-naturw. Kl. 118: 857. 1909.

On unknown host.

Type locality: Buitenzorg, Java.

No. 36. *Meliola microtricha* Sydow, H. & P., Ann. Mycol. 18: 157. 1920.

On Moraceae: Ficus.

Type locality: Singapore.

Specimens: Baker, Fungi Mal. 490, 491.

No. 37. *Meliola horrida* Ellis & Everhart in Smith, Bul. Univ. Ia. 2: 396. 1893.

On Myrtaceae: Psidium.

Type locality: Nicaragua.

### Conspectus of Group 3, *Meliola*.

#### Ch. alternate or opposite

- |   |                      |          |
|---|----------------------|----------|
| 3143. 3221, s. 120—170 $\mu$ , dark, dichotomous, pr. br. 40—70 $\mu$ , apices of branches swollen, hc. entire, on Convolvulaceae | <i>permixta</i>      | No. 38.  |
| 3143. 4231, s. 250—300 $\mu$ , branches acute, once dichotomous, sometimes dentate, hc. ovoid, elongate or lobed, on Araliaceae   | <i>dichotoma</i>     | No. 39.  |
| 3143. 4231, s. 200—300 $\mu$ , branches 10—15 $\mu$ , sometimes toothed, colony crustose, hc. clavate, on Opiliaceae . . . . .    | <i>agonandreae</i>   | No. 40.  |
| 3143. 3221, s. 100—160 $\mu$ , 1—2 dichotomous, pale, pr. br. 60 $\mu$ , obtuse, hc. globose, on Convolvulaceae . . . . .         | <i>pallida</i>       | No. 41.  |
| 3143. 3121, s. 150—200 $\mu$ , 1—3 dichotomous, pr. br. divaricate. 20 $\mu$ , acute, on Piperaceae                               | <i>piperis</i>       | No. 42.  |
| 3143. 5221, s. —250 $\mu$ , 1-2-3 dichotomous, pr. br. 25—90 $\mu$ , on Solanaceae . . .  | <i>dicranochaeta</i> | No. 43.  |
| 3143. 3221, s. 200—250 $\mu$ , pr. br. 120—150 $\mu$ on Saxifragaceae . . . . .   | <i>choristylidis</i> | No. 43a. |

#### Ch. opposite

- |   |                    |         |
|---|--------------------|---------|
| 3142. 5221, s. 230—300 $\mu$ , 1-2-3-4 dichotomous, pr. br. 120 $\mu$ , tips acute, hc. oval, regular, on Araceae . . . . . | <i>philodendri</i> | No. 44. |
| 3142. 4232, s. 250—325 $\mu$ , pr. br. 10—90 $\mu$ , bifid, hc. cylindric to oval, on Santalaceae                           | <i>bifida</i>      | No. 45. |
| 3142. 3221, s. 215—260 $\mu$ , pr. br. 55 $\mu$ , thin, pale, very variable, hc. cylindric, on Marantaceae . . . . .        | <i>calathea</i>    | No. 46. |

3142. 3221, s. 125—170  $\mu$ , 1-2-3 dichotomous, pr. br. 10—14  $\mu$ , thick, dark, hc. cylindric, on Leguminosae . . . . . *chagres*

No. 47.

## Ch. alternate

## Branching of special character

3141. 3221, s. 150—200  $\mu$ , 1—2 dichotomous, primary and secondary branches, strongly recurved, obtuse, on Leguminosae . . . . . *juruana*

No. 48.

3141. 4221, s. 220—280  $\mu$ , 1—2 dichotomous, pr. br. 110—190  $\mu$ , tips swollen, hc. ovoid or irregular, on Bignoniaceae *tumor*

No. 49.

3141. 3221, s. 1—2 dichotomous, upper secondary branch thrice dichotomous, lower usually simple, on unknown host *forbesii*

No. 50.

3141. 3221, s. 100—150  $\mu$ , branches very irregular, slender, hc. subglobose-oblong, on Bignoniaceae . . . . . *lundiae*

No. 51.

## Branching not of special character

Primary branches 90  $\mu$ 

3141. 4331, s. 250—300  $\mu$ , 1-2-3-4 dichotomous, pr. br. long, secondary short, hc. globose or lobed, on Compositae . *mikaniae*

No. 52.

3141. 4221, s. 150—200  $\mu$ , pr. br. 100  $\mu$ , bifid, 10  $\mu$ , hc. oblong, cylindric, on Araliaceae . . . . . *leptoclada*

No. 53.

3141. 5231, s. 200—300  $\mu$ , 1-2-3 dichotomous, pr. br. 130  $\mu$ , 2d 30—80  $\mu$ , hc. ovate or globose, on Araliaceae . . . *leptidea*

No. 54.

3141. 4231, s. 300  $\mu$ , pr. br. 80—150  $\mu$ , redivided and apices 2—4 furcate, hc. oval, oblong or lobed, on Rutaceae . . *patens*

No. 55.

3141. 5222, s. 300—400  $\mu$ , once, rarely twice, dichotomous, pr. br. 100  $\mu$ , apices acute, on Rutaceae . . . . . *tenella*

No. 56.

Primary branches 90  $\mu$ —, 35  $\mu$ +

3141. 3231, s. 120—160  $\mu$ , pr. br. 40—90  $\mu$ , divergent, hc. irregular, on Convolvulaceae . . . . . *quadrispina*

No. 57.

3141. 4221, s. 150—200  $\mu$ , 1-2-3 dichotomous, pr. br. 60—80  $\mu$ , hc. sub-globose, on Araliaceae . . . . . *boerlagiodendriae*

No. 58.

3141. 6321, s. 230—280  $\mu$ , pr. br. 70—80  $\mu$ , variable, hc. irregular, on Palmae . . *elaeis*

No. 59.

3141. 4322, s. 250—350  $\mu$ , pr. br. 20—70  $\mu$ ,  
these often 2-3 furcate, 8—20  $\mu$ , on  
Lauraceae . . . . . *calochaeta* No. 60.
3141. 3221, s. 160—220  $\mu$ , 2 branches, 35  
—70  $\mu$ , with apices, 2—3 dentate, hc.  
globose or lobed, on Vitaceae . . . . *merrillii* No. 61.
3141. 5232, s. 350—400  $\mu$ , pr. br. 60  $\mu$ ,  
acute, hc. globose or ovate, on Piperaceae *pululahuensis* No. 62.
3141. 5221, s. 200  $\mu$ , 2 pr. br. 40  $\mu$ , den-  
tate, hc. ovoid, on Gramineae . . . . *arundinis* No. 63.
3141. 3221, s. 200—280  $\mu$ , dichotomous,  
pr. br. 30—40  $\mu$  with dichotomous toothed  
apices, hc. ovoid or oblong, on Anacar-  
diaceae . . . . . *tapirirae* No. 64.
- Primary branches 35  $\mu$ —
3141. 4231, s. 250—300  $\mu$ , divergent, pr.  
br. 2—3, 30—40  $\mu$ , incised, hc. ovate or  
sub-globose, on Palmae . . . . . *furcata* No. 65.
3141. 4224, s. 500—1500  $\mu$ , simple or  
3—5 dentate, —16  $\mu$ , hc. elliptical, on  
Palmae . . . . . *furcata* var. *coperniciae* No. 66.
3141. 4211, s. 150  $\mu$ , pr. br. 30  $\mu$ , 1—2  
dichotomous, hc. ovate, on Palmae . . *morrowii* No. 67.
3141. 3221, s. 130—200  $\mu$ , 3—4 dichoto-  
mous, pr. br. 7—11  $\mu$ , hc. clavate, on  
Palmae . . . . . *melanococcae* No. 68.
3141. 3221, s. 150—225  $\mu$ , 2—3 fid, pr.  
br. 18—25  $\mu$ , toothed, hc. oblong, on  
Apocynaceae . . . . . *guamensis* No. 69.
3141. 4221, s. 190  $\mu$ , 1—2 dichotomous,  
pr. br. 15—35  $\mu$ , divergent, acute, dark,  
thick, hc. ovate or lobed, on Cucurbitaceae *cucurbitacearum* No. 70.
3141. 4221, s. 230—260  $\mu$ , irregularly  
divided, pr. div. 14  $\mu$ , ascending, toothed,  
thin, pale, hc. globose, on Euphorbiaceae *crotonicola* No. 71.
3141. 4222, s. 175—400  $\mu$ , 2—6 pr. br.  
10  $\mu$ , irregularly dentate, hc. globose,  
on Gramineae . . . . . *sacchari* No. 72.
3141. 5331, s. 300—380  $\mu$ , 3—4 short, 20  
—40  $\mu$ , acute, branches variously forked,  
hc. globose, on Gramineae . . . . . *bambusae* No. 73.
3141. 5331, s. longer, on Rutaceae *bambusae* var. *atalantiae* No. 74.
3141. 4232, s. 250—350  $\mu$ , 3-furcate, bran-  
ches bi-tri dentate, on Liliaceae . . . *dracaenicola* No. 75.

3141. 3223, s. 350—700  $\mu$ , primary branches, 2—6, 3—20  $\mu$ , these toothed or branched, hc. sub-globose, on unknown host . . . . . *heterodonta* No. 76.

No. 38. *Meliola permixta* Sydow, H., Annal. Mycol. 21: 90. 1923.

On Convolvulaceae: Ipomoea.

Type locality: British North Borneo, 2146, Ramos.

Specimen: the type.

No. 39. *Meliola dichotoma* Berkeley & Curtis, Proc. Amer. Acad. Arts & Sci. 4: 130, No. 171. 1860.

On Araliaceae: Hedera 83. On Gramineae: Phragmites 293, 4, 301.

Type locality: Japan, on Hedera.

Distribution: Japan 16, 83, 5; Philippines 293, 4, 301.

Citations: 83\*, 267.

Specimens: the type, Phil. Bur. Sci. 6767, 9101.

No. 40. *Meliola agonandrae* Spegazzini, An. Mus. Nac. Buenos Aires, 32: 388. 1924.

On Opiliaceae: Agonandra.

Type locality: Misiones, Argentine.

No. 41. *Meliola pallida* n. sp.

Colony 2—3 mm. in diameter, epiphyllous. Mycelium straight, branching mostly opposite. Capitate hyphopodia opposite or alternate, stalk cell short, 3—4  $\mu$ , head cell globose, 7—8  $\mu$ . Mycelial setae pale, 7—8  $\mu$  thick, 110—160  $\mu$  long, branched once or twice dichotomously or irregularly at apex, branches up to 60  $\mu$  long, obtuse.

Perithecia globose, smooth, 140—155  $\mu$  in diameter. Spores 4-septate,  $39 \approx 14 \mu$ .

Group number 3143. 3221. Fig. 3.

On Convolvulaceae: Ipomoea sp. British Guiana, Tumatumari, July 12, 1922, 228 type; associated with *M. clavulata* and *M. malacotricha*.

This species is remarkable in the form of its setal tips and for the pale color of the setae. The mycelium and hyphopodia are very like those of *M. clavulata* which occurs upon the same leaves, but the hyphopodia are frequently alternate. The setae differ also in color and thickness from these of *M. clavulata* yet these fungi are clearly closely related notwithstanding the fundamental difference in their setal tips. It is also close to *M. permixta* but is quite distinct from it in the color of the setae and the character of the setal branching.

No. 42. *Meliola piperis* Earle, Muhl. 1: 12. 1901.

On Piperaceae: Piper.

Type locality: Porto Rico, Heller 4359b.

Specimen: the type.

Distribution: Porto Rico 261; Santo Domingo 331a.

Citation: 230a.



New records: On Piperaceae: Piper sp. British Guiana, Tumatumari, July 12, 1922, 194. A species of *Helminthosporium* is present on this specimen.

No. 43. *Meliola dicranochaeta* Sydow, H., Annal. Mycol. 24: 301. 1926.  
On Solanaceae: Cestrum.

Type locality: San Pedro de San Ramon, Costa Rica 390.

Specimen: the type.

No. 43a. *Meliola choristylidis* Doidge, Both. 11: 236. 1927.

On Saxifragaceae: Choristylis.

Type locality: So. Africa.

No. 44. *Meliola philodendri* Stevens, Ill. Biol. Mono. 2: 60. 1916.

On Araceae: Philodendron.

Type locality: Porto Rico, Stevens 7225.

Citations: 261\*, 230a.

No. 45. *Meliola bifida* Cooke, Grev. 9: 15. 1880. Emend. Doidge, Trans. Roy. Soc. So. Africa 5: 748. 1917.

On Santalaceae: Osiridicarpos 30, 83. On Rubiaceae: 184.

Type locality: Natal, Africa, on Santalaceae.

Distribution: Africa 30, 83, 45; Brazil 184.

Citations: 45\*, 55.

Specimen: Union So. Afr. 9020.

No. 46. *Meliola calathea* n. sp.

Colonies hypophyllous, black, irregular, 1—3 cm or larger in diameter. Mycelium straight, thin, 6  $\mu$ , branching opposite. Capitate hyphopodia opposite, very regularly arranged, about 20—36  $\mu$  apart. Stalk cell short, 3—4  $\mu$ ; head cell cylindrical, 8—11  $\mu$   $\approx$  7  $\mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae 215—260  $\mu$  long, black, at the tip variously, sometimes intricately branched, branches up to 55  $\mu$  long, usually repeatedly dichotomous to the third or fourth degree, sometimes short and close, others very long and loose. Perithecia globose, smooth, 135—155  $\mu$  in diameter. Asei evanescent. Spores 4-septate, 36—43  $\mu$   $\approx$  14  $\mu$ .

Group number 3142. 3221. Fig. 4.

On Marantaceae: Calathea insignis. Costa Rica, Columbiana, July 19, 1923, 578 (type). On Bihai pendula. Costa Rica, San Cecelia, Aug. 7, 1923 766, 749.

Though the setae are often abundant, sometimes they are lacking in large areas, thus the examination of limited material might lead to the belief that this is of the *Irene* group.

No. 47. *Meliola chagres* n. sp.

Colonies amphigenous but mostly hypophyllous, not dense, irregular, indefinite, 3—20 mm. in diameter, black. Mycelium straight, 6  $\mu$ , branches mostly opposite, distant. Spot none. Capitate hyphopodia mostly opposite, about 36  $\mu$  apart. Stalk cell short, 3—4  $\mu$ ; head cell cylindric, obtuse, 11  $\mu$   $\approx$  7  $\mu$ , often bent forward or backward. Mucronate hyphopodia ampulliform, few, 18—21  $\mu$   $\approx$  6  $\mu$ , neck long.

Perithecial setae none. Mycelial setae straight, rigid, black, 123—170  $\mu$ , dichotomous, primary branches widely spreading, 10—14  $\mu$  long, these dividing once or twice more. Perithecia globose, smooth, 155—185  $\mu$ . Asci evanescent. Spores 4-septate,  $32 \approx 11$ —14  $\mu$ .

Group number 3142. 3221. Fig. 5.

On Leguminosae: Inga sp. Panama, Chagres mouth, Aug. 23, 1923, 1288.

No. 48. *Meliola juruana* Hennings, Hedw. 43: 365. 1904.

On Leguminosae: Lonchocarpus. "(auf 2935. unrec.?) in Hedw. 43"

Type locality: Amazon, Peru, Ule

Citation: 101\*.

Specimen: the type. 2933 [vide Hedw. 43, p. 365]

No. 49. *Meliola tumor* n. sp.

Colonies amphigenous, more commonly epiphyllous, indefinite, diffuse, covering nearly the whole leaf. Mycelium straight, dark, branching mostly opposite. Capitate hyphopodia alternate. Stalk cell short, 3—4  $\mu$ ; head cell ovoid to cylindrical, rarely irregular, 18—22  $\approx$  11—15  $\mu$ . Mucronate hyphopodia ampulliform, mostly opposite, 25  $\mu$  long.

Perithecial setae none. Mycelial setae 220—280  $\mu$ , forked dichotomously once or twice, primary branches 110—190  $\mu$  long. Ultimate tips of branches swollen and minutely roughened. Perithecia 150—185  $\mu$  in diameter, globose, smooth. Asci evanescent. Spores 4-septate, 47—50  $\approx$  18  $\mu$ , constricted.

Group number 3141. 4221. Fig. 6.

On Bignoniaceae: British Guiana; Rockstone, July 16, 1922, 422.

This species is quite remarkable for its long-branched setae with swollen tips.

No. 50. *Meliola forbesii* Gaillard, Le Gen. Mel. 110. 1892.

On unknown host: 83, 201. On Convolvulaceae: Merremia 201, 5.

Type locality: Sumatra, Forbes 2893, on unknown host.

Distribution: Sumatra 9; Philippines 201, 5.

Citation: 83\*.

Specimen: Phil. Bur. Sci. 1978.

No. 51. *Meliola lundiae* n. sp.

Colony 1—3 mm., circular, thin, Mycelium sub-straight, 5—6  $\mu$  thick. Capitate hyphopodia alternate, antrorse, stalk short, 3—4  $\mu$ ; head cell sub-globose to oblong. Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae few, 100—150  $\mu$ , 7  $\mu$  thick at base, very irregularly branched at tip; perithecia globose, borne on a 36  $\mu$  disk, 60—125  $\mu$ . Asci evanescent. Spores 4-septate, 22—32  $\approx$  11—14  $\mu$ .

Group number: 3141. 3221. Fig. 7.

On Bignoniaceae: Lundia umbrosa. Ecuador, Barrn'nital, Nov. 17, 1924, 321.

- No. 52. *Meliola mikaniae* Gaillard, Bul. Soc. Mycol. France 8: 187. 1892.  
 On Compositae: Mikania. On Vitaceae: Cissus (?).  
 Type locality: Ecuador, on Mikania.  
 Distribution: Ecuador 84, 163; Brazil 184.  
 Citation: 84\*.
- No. 53. *Meliola leptoclada* Sydow, H., Annal. Mycol. 20: 62. 1922.  
 On Araliaceae: Schefflera.  
 Type locality: China 11133.  
 Specimen: the type.
- No. 54. *Meliola leptidea* Sydow, H. & P., Annal. Mycol. 10: 38. 1912.  
 On Araliaceae: Cussonia.  
 Type locality: South Africa, Pole Evans 405.  
 Citations: 45\*, 55, 18b.  
 Specimen: the type.
- No. 55. *Meliola patens* Sydow, H. & P., Leaf. Philippine Bot., C. Bot. 5: 1538. 1912.  
 On Rutaceae: Lunasia.  
 Type locality: Palawan, Philippines 13023.  
 Citation: 4.  
 Specimen: Phil. Bur. Sci. 13023.  
 This species appears to be very close to *M. tenella*.
- No. 56. *Meliola tenella* Patouillard, Rev. Mycol. 10: 140. 1888.  
 On Rutaceae: Muraya.  
 Type locality: Tonkin, China.  
 Citations: 154\*, 83\*.
- No. 57. *Meliola quadrispina* Raciborski, Parasitische Algen und Pilze Java's 3: 33. 1900.  
*Meliola quadrifurcata* Rehm, Philippine Jour. Sci., C. Bot. 8: 181. 1913.  
 On Convolvulaceae: Ipomoea 4, 175, 261, 196, Hewittia 294, 4, 86, Merremia 201, 301.  
 Type locality: Java, on Convolvulaceae.  
 Distribution: Java 196, 175; Philippines 294, 201, 5, 86, 4, 301; Porto Rico 261.  
 Citation: 261\*.  
 Specimen: Merrill 8408.
- The synonymy given above is based on Rehm's assertion of the identity of the two species (201). The specimen reported by me (261) under this name, on comparison with authentic material, proves to be different. Specimen, Merrill 8655 on Hewittia, issued under this name is a very different species, *M. malacotricha*.
- No. 58. *Meliola boerlagiodendriae* Yates, Philippine Jour. Sci. 13: 365. 1918.  
 On Araliaceae: Boerlagiodendron.  
 Type locality: Philippines, Bur. Sci. 28911 Ramos & Edaño.  
 Specimen: Phil. Bur. Sci. 28911.

No. 59. *Meliola elaeis* n. sp.

Colony densely black, epiphyllous, 2—10 mm. in diameter, irregular. Mycelium black, thick, 7—8  $\mu$ , straight, dense in older parts of colonies. Spot none. Capitate hyphopodia alternate, Stalk cell short, 3—7  $\mu$ ; head cell very irregular, 25—28  $\approx$  14  $\mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae black, stiff, 230—280  $\mu$  long, variously branched; branches 70—80  $\mu$  long, acute or obtuse. Perithecia globose, smooth, 150—170  $\mu$ . Asci evanescent. Spores 4-septate, 57—61  $\approx$  22  $\mu$ , dark, constricted.

Group number: 3141. 6321. Fig. 8.

On Palmae, Panama, Culebra, Oct. 2, 1925, 943 (type), Chagres mouth, Aug. 22, 1923, 1266. On *Elaeis melanococca*. Costa Rica, Swamp Mouth. Aug. 9, 1923. 823, Limon, Aug. 7, 1923, 770.

The branching of the setae is very characteristic. There is usually a stiff thick, 11  $\mu$ , stalk arising about 150  $\mu$  unbranched. At this point it separates into 2, 3 or 4 branches, each about 70—80  $\mu$  long; often these branches fork again. Much difference is found in various colonies as to the abundance of setae. Many colonies quite large are entirely devoid of setae, but when old enough to bear perithecia they seem always to be setigerous.

No. 60. *Meliola calochaeta* Sydow, Leaf. Philippine Bot. 9: 3117. 1925.

On Lauraceae: *Cryptocarya*.

Type locality: Sorsogon, Philippines 17331.

Specimen: the type.

No. 61. *Meliola merrillii* Sydow, H. & P., Philippine Jour. Sci., C. Bot. 8: 479. 1913.

*Meliola varia* Doidge, Trans. Roy. Soc. So. Africa 5: 738. 1917.

On Vitaceae: *Cissus* 294, 4, 301, 261, *Rhoicissus* 45, 51.

Type locality: Luzon, Philippines, 8672, Merrill.

Distribution: Philippines 294, 4, 301; Porto Rico 261; So. Africa 45; 18b Santo Domingo 331a.

Citations: 215, 45\*, 230a.

Specimens: Merrill 8672 (cotype), Phil. Bur. Sci. 23885, Doidge 1639, 11554.

Miss Doidge writes that she "can see no essential difference" between these species.

New records: — On Vitaceae: *Cissus rhombifolia*. Panama, Mandingo, Oct. 15, 1924, 1318, Corozal, trail 17, Aug. 29, 1924, 120. On *Cissus sicyoides*. Costa Rica, Port Limon, Aug. 10, 1923, 868, Experiencia Farm, July 18, 1923, 539, Peralta, July 11, 1923, 326, Siquirres, July 31, 1923, 685; Panama, Pedro Miguel, Sept. 9, 1924, 348, Bella Vista, Oct. 7, 1924, 1126, France Field, Sept. 2, 1924, 189, Mandingo, Oct. 15, 1924, 1351, Summit, Sept. 12, 1924; 458.



The agreement in characters between specimens of this fungus from Porto Rico, South America, and the Philippines is remarkably close. The specimens on *C. rhombifolia* show the colonies much less developed and it appears that the fungus is not so well adapted to parasitism on this host as on *C. sicyoides*.

No. 62. *Meliola pululahuensis* Gaillard, Bul. Soc. Mycol. France 8: 183. 1892.

On Piperaceae: Piper.

Type locality: Ecuador.

Citations: 163, 84\*.

Specimen: the type.

No. 63. *Meliola arundinis* Patouillard, Jour. Bot. (Paris) 11: 348. 1897.

*Meliola dolabrata* Sydow, H. & P., Bot. Jahrb. (Engler) 56: 431. 1921.

On Gramineae: Arundo 157, 86, Saccharum 294, 86, 301, 306, Phragmites 264a.

Type locality: China.

Distribution: China 157, 86; Philippines 294, 301, 4; East Carolines 306.

Citations: 277, 153, 267; India 264a.

Specimen: Phil. Bur. Sci. 23260 (Det. by Sydow).

This agrees well with the description and shows the capitate hyphopodia alternate.

These specimens are of somewhat unusual interest in that the setae are sometimes simple.

No. 64. *Meliola tapirirae* Stevens & Tehon, Mycol. 18: 13. 1926.

On Anacardiaceae: Tapirira.

Type locality: British Guiana, Stevens 330.

Citation: 266\*.

No. 65. *Meliola furcata* Lévillé, Ann. Sci. Nat. Bot., Sér. 3, 5: 266. 1846.

On Piperaceae: 12, Artanthes 132. On Ranunculaceae: Clematis 12. On Bignoniaceae: 177, 236, Macrodiscus 261. On Palmae: Coccothrinax 261, 29e, 331a, Acrista 261, Thrinax 261, Sabal 63. On Rutaceae: Atalantia 14, 218. On Araliaceae: Cussonia 281. On Anacardiaceae: Astronium 236.

Type locality: Dutch Guayana, on Palm.

Distribution: Guayana 131, 132, 19, 20, 12, 83; Nicaragua 12, 13, 154, 64, 83; Southern United States 33; Paraguay 33; Argentine 235, 236; Cuba 154, 83; South Africa 281; Porto Rico 261; Ceylon 218, 14; Dominica 29e, 331a.

Citations: 20\*, 30, 134, 17, 154\*, 64\*, 83\*, 69\*, 153, 254, 267, 230a.

Specimens: the type, Rav., Fung. Amer. 330, Roum. 4433.

Erroneously reported as *Meliola furcata* Lév. are: *Meliola palmicola* Wint. on Sabal (134); *Meliola bidentata* (241); *Meliola bambusae* Pat. (17); also Ellis N. A. F. 1297 A. & B. are *M. bidentata*, 1297c is *M. palmicola*.

The most reliable study of this species is probably that of Patouillard (154) based upon Lévillé's specimens from Dutch Guayana and placed

by Lévillé in the Museum of Paris. The drawings presented of the setae are very definite. Spegazzini holds that *M. bidentata* Cke. is *M. furcata*.

No. 66. *Meliola furcata* Lévillé var. *coperniciae* Spegazzini, An. Mus. Nac. de Hist. Nat., Buenos Aires 31: 400. 1923.

On Palmae: Copernicia.

Type locality: Paraguay, Bertoni 1081.

No. 67. *Meliola morrowii* n. sp.

Colony diffuse, irregular, epiphyllous. Mycelium straight longitudinal of the leaf, slightly crooked across. Capitate hyphopodia alternate. Stalk cell short, 3—4  $\mu$ ; head cell regular, ovate, 11  $\approx$  9  $\mu$ . Mucronate hyphopodia ampulliform, alternate or opposite.

Perithecial setae none. Mycelial setae about 150  $\mu$  long, 7—8  $\mu$  thick at base, primary branches about 30  $\mu$  long, once, twice or thrice dichotomously forked. Perithecia globose, 62—80  $\mu$ , smooth. Asci evanescent. Spores 4-septate, 43  $\approx$  11—15  $\mu$ .

Group number 3141. 4211. Fig. 9.

On Palmae. Panama, Baillemona, Sept. 20, 1924, 680. Named in honor of Gov. J. Morrow in recognition of his services to biologic sciences.

This species is separated at once from *M. furcata* by the characters of its mycelium and hyphopodia. The setal branching is much as is figured by Gaillard for *M. furcata*.

No. 68. *Meliola melanococcae* n. sp.

Colonies thin, diffuse, circular, 5—10 mm. in diameter. Mycelium somewhat crooked, black, 5—6  $\mu$ . Capitate hyphopodia alternate, not numerous, usually regular, sometimes slightly irregular. Stalk cell short, 3—4  $\mu$ ; head cell clavate, 20—25  $\approx$  7—11  $\mu$ . Mucronate hyphopodia ampulliform, crooked, narrow,

Perithecial setae none. Mycelial setae 130—200  $\mu$  long, 3—4 times dichotomously branched at tip. Primary branches 7—11  $\mu$  long. Perithecia globose, 90—108  $\mu$ , somewhat rough. Asci evanescent. Spores 4-septate, 39  $\approx$  11  $\mu$ .

Group number 3141. 4221. Fig. 10.

On Palmae: *Elaeis melanococca*. Peru, Huacapistana, Dec. 6, 1924, 79 (type); Panama, Darien, Sept. 10, 1924, 403, Mandingo, Oct. 15, 1924, 1316.

This differs markedly from *M. furcata* and *M. elaeis* in the branching of the setal tips and in colony character.

No. 69. *Meliola guamensis* Sydow, H., Annal. Mycol. 19: 304. 1921.

On Apocynaceae: *Ochrosia*.

Type locality: Guam, McGregor 586.

Specimen: the type.

No. 70. *Meliola cucurbitacearum* Stevens, Ill. Biol. Mono. 2: 58. 1916.

On Cucurbitaceae: probably *Cayaponia*.

Type locality: Porto Rico, Stevens 8732.

Citations: 261\*, 230a.

No. 71. *Meliola crotonicola* n. sp.

Colonies diffuse, hypophyllous, 2—12 mm. in diameter. Mycelium very crooked, translucent. Capitulate hyphopodia alternate. Stalk cell short, 3—6  $\mu$ ; head cell globose, 9  $\mu$ . Mucronate hyphopodia ampulliform, narrow, 18  $\approx$  6—7  $\mu$ .

Perithecial setae none. Mycelial setae 230—260  $\mu$  long, several times divided at the tip into short teeth, primary branches 14  $\mu$ , these irregularly toothed. Perithecia globose, smooth, 105—155  $\mu$  in diameter, no radiate disk. Asci evanescent. Spores 4-septate, elliptical, 43—50  $\approx$  14—15  $\mu$ .

Group number 3141. 4221. Fig. 11.

On Euphorbiaceae: Croton. Costa Rica, Siquirres, July 31, 1923, 687.

The mycelium, capitulate hyphopodia, and especially the setal tips are characteristic.

No. 72. *Meliola sacchari* Sydow, H. & P., Ann. Mycol. 12: 548. 1914.

On Gramineae: Saccharum, Imperata 9.

Type locality: Luzon, Philippines, Bur. Sci. 20051, McGregor.

Citation: 267.

Specimen: the type.

This agrees in general type with *M. arundinis* and should perhaps be regarded merely as a variety with somewhat longer setae.

No. 73. *Meliola bambusae* Patouillard, Rev. Mycol. 10: 140. 1888.

On Gramineae: Bambusa 154, 83, 155.

Type locality: Tonkin, China (Balansa).

Citations: 154, 83\*, 17.

Specimens: Roum., Fungi Sel. Gal. Exs. 4433 sub *M. furcata*.

No. 74. *Meliola bambusae* Patouillard var. *atalantiae* Patouillard, Jour. Bot. 11: 348. 1897.

On Rutaceae: Atalantia.

Type locality: Tonkin, China.

No. 75. *Meliola dracaenicola* Patouillard & Hariot, Bul. Soc. Mycol. France 24: 14. 1908.

On Liliaceae: Dracaena 161, Behnia 56.

Type locality: Congo, Africa.

Citations: 56\*, 267, 54\*.

Specimen: Union So Afr. 14955.

The setae are given by Doidge as 250—350  $\mu$  long.

No. 76. *Meliola heterodonta* Sydow, H. & P., Ann. Mycol. 14: 357. 1916.

On Anacardiaceae: Dracontomelum.

Type locality: Philippines, Baker 4031. On unknown host.

Specimen: Baker, Fungi Mal. 252.

## Conspectus of Group 4, Meliola.

## He. alternate or opposite

## Perithecium translucent

3133. 4221, perithecium translucent, on Leguminosae . . . . . *pellucida* No. 77.

## Perithecium not translucent

3133. 4221, hc. globose, s. —280  $\mu$ , with, two simple branches, or dentate, on Leguminosae . . . . . *bicornis* No. 78.  
 3133. 4221, on Leguminosae . . . *bicornis* var. *calopogonii* No. 79.  
 3133. 3222, hc. globose, s. 230  $\mu$ , 1-2-3 dichot. or irregularly branched, on Araceae *bicornis* var. *amerimni* No. 80.  
 3131. 3223, s. 400—650  $\mu$ , 2—3 dentate, on Leguminosae . . . . . *bicornis* var. *tephrosiae* No. 81.  
 3133. 3223, s. 350—540  $\mu$ , rough or 2—4 dentate, on Leguminosae . . . *bicornis* var. *milleltiae* No. 82.  
 3133. 4221, hc. entire, curved, s. 200—300  $\mu$ , 1—4 dentate, —15  $\mu$ , on Leguminosae *bicornis* var. *robinsonii* No. 83.  
 3133. 3222, s. 400  $\mu$ , dentate or short branched, hc. globose, sub-globose, on Araceae *dieffenbachiae* No. 84.  
 3133. 4222, s. 400  $\mu$ , 2—3 dentate, 5—12  $\mu$ , on Anacardiaceae . . . . . *weigeltii* No. 85.  
 3133. 6322, s. 300—370  $\mu$ , 1-2-3 dentate, hc. ovoid, globose or lobed, on Loranthaceae *loranthi* No. 86.  
 3133. 6222, s. —350  $\mu$ , 2—3 short branches, hc. ovate, on Malpighiaceae . . . . . *crenata* No. 87.  
 3133. 3322, s. 200—400  $\mu$ , dentate, variable, 2—3 toothed, 4 to 20  $\mu$ , hc. irregularly lobed, on Sapindaceae . . . . . *sapindacearum* No. 88.  
 3133. 3242, s. 200—300  $\mu$ , 2—6 forked, pr. br. —24  $\mu$ , hc. cylindric to conic or irregular, on Verbenaceae . . . . . *campylopoda* No. 89.

## He. opposite

3132. 3224, s. biform: a-1700  $\mu$ , tip toothed, b-185—240  $\mu$ , much branched, on Zingiberaceae . . . . . *longistipitata* No. 90.  
 3132. 3221, s. 230  $\mu$ , 2-many dentate, hc. globose, spores strongly constricted, on Sapindaceae . . . . . *serjaniicola* No. 91.  
 3132. 4221, s. 150—250  $\mu$ , 3—6 dentate, 2—7  $\mu$ , hc. cylindrical, not crowded, on Sapindaceae . . . . . *odontocephala* No. 92.  
 3132. 4221, s. 90—200  $\mu$ , several dentate, hc. ovate, on Solanaceae . . . . . *wismarensis* No. 93.



3132. 3221, s. 250—300  $\mu$ , 2—3 furcate, spores not strongly constricted, on Solanaceae . . . . . *fuscidula* No. 94.
3132. 4221, s. 260—280  $\mu$ , 2-several dentate, 7—30  $\mu$ , hc. oblong, crowded, on Rubiaceae *kauaiensis* No. 95.
3132. 4231, s. 150—300  $\mu$ , trident and branches bi- or tri-dentate, hc. ovate, sometimes lobed, on Bignoniaceae . . . . . *harioti* No. 96.
- He. alternate
- Setal teeth very short and numerous, i. e. crested or crenulate
3131. 3221, s. 220  $\mu$ , crested, hc. ovoid, pyriform, crowded, 7—17  $\mu$  apart, on Piperaceae *gaillardiana* No. 97.
3131. 3221, s. 185—215  $\mu$ , intricately 3-4-short branched, 7—10  $\mu$ , colony not very dense, hc. sub-globose, ovate, very irregularly placed, on Piperaceae . . . . . *zeteki* No. 98.
3131. 4222, s. 300—350  $\mu$ , crenulate or denticulate, hc. ovoid, on Leguminosae . . . . . *denticulata* No. 99.
3131. 3222, s. 250—330  $\mu$ , end cell rough by short teeth, crenulate or short dentate, hc. globose, ovoid,  $11 \approx 14$   $\mu$ , on Leguminosae . . . . . *crenatissima* No. 100.
3131. 3221, s. —230  $\mu$ , tip a crested head, 20—30  $\mu$ , hc. ovoid, pyriform, 17—48  $\mu$  apart, on Leguminosae . . . . . *cristata* No. 101.
3131. 3221, s. 260—280  $\mu$ , tip with a whorl of many short teeth, hc. ovate, on Bignoniaceae . . . . . *cydistae* No. 102.
3131. 2221, s. 150—220  $\mu$ , crested or dentate, 1—2  $\mu$ , hc. globose, ovoid, on Bignoniaceae *dentifera* No. 103.
3131. 4221, s. 250—400  $\mu$ , cristate, hc. oblong, colony not tenuous, on Anacardiaceae . *anacardii* No. 104.
3131. 3221, s. 200—275  $\mu$ , crested with 2—5 teeth, colony tenuous, hc. clavate, on Anacardiaceae . . . . . *geniculata* No. 105.
3131. 4231, s. 200—275  $\mu$ , 2—5 teeth, hc. clavate, on Anacardiaceae . . *geniculata* var. *macrospora* No. 106.
3131. 3222, s. 300—350  $\mu$ , crenate or dentate, 2—4 teeth, —12  $\mu$ , hc. cylindrical, on Malpighiaceae . . . . . *crenato-furcata* No. 107.
- Setae not crested
3131. 3221, s. 200—230  $\mu$ , 2—3 furcate, short, hc. globose, on Solanaceae . . . . . *solanicola* No. 108.

3131. 4222, s. 300—380  $\mu$ , 3—4 short branched, hc. globose, on Piperaceae . . . *patouillardi* No. 109.
3131. 3223, s. 300—525  $\mu$ , with a few short teeth, hc. globose, 12—14  $\mu$ , on Leguminosae . . . *trinidadensis* No. 110.
3131. 3211, s. 180  $\mu$ , dentate, 3—14  $\mu$ , hc. sub-globose, ovate or truncate, on Leguminosae . . . *diphysae* No. 111.
3131. 4233, s. 500—600  $\mu$ , 2—3 furcate, hc. globose, ovate, few, on Leguminosae . . . *zollingeri* No. 112.
3131. 3221, s. 220—250  $\mu$ , few, on Leguminosae . . . *zollingeri* var. *minor* No. 113.
3131. 4223, s. 875  $\mu$ , 2—3 branched, 25—28  $\mu$ , hc. ovate, elliptical, on Leguminosae . . . *evanida* No. 114.
3131. 3222, s. 270—800  $\mu$ , dentate, hc. globose, regular, colony loose, on Bignoniaceae . . . *bignoniacearum* No. 115.
3131. 4221, colony close, s. 2—5 dentate, on Bignoniaceae . . . *bidentata* No. 116.
3131. 5221, s. 200—225  $\mu$ , 3—4 short, simple branches, hc. globose, ovate, on unknown host . . . *monilispora* No. 117.
3131. 3222, s. 275—500  $\mu$ , dentate, hc. ovate, on Sapindaceae . . . *paullinae* var. *dentata* No. 118.
3131. 4232, s. 220—360  $\mu$ , 4-dentate, 3—14  $\mu$ , hc. ovate, on Rutaceae . . . *galipeae* No. 119.
3131. 5221, s. 200—250  $\mu$ , 3—4 divergent branches, 15—20  $\mu$ , these 2—3 dentate, hc. ovate, on Rutaceae . . . *evodiae* No. 120.
3131. 4223, s. 500—700  $\mu$ , 2—4 dentate, 15  $\mu$ , hc. oblong, ovate or pyriform, on Rutaceae . . . *citricola* No. 121.
3131. 2221, s. 200—280  $\mu$ , 2—3 dentate, 7—11  $\mu$ , hc. ovate, on Rubiaceae . . . *duggenae* No. 122.
3131. 2221, on Rubiaceae . . . *duggenae* var. *panamensis* No. 123.
3131. 4222, s. 300—420  $\mu$ , dentate, 16  $\mu$ , hc. obovate, on Anacardiaceae . . . *opaca* No. 124.
3131. 4224, myc. crooked, hc. conic but often curved, s. tips coarsely branched, then with many fine branches, on Anacardiaceae . . . *multisetata* No. 125.
3131. 3222, s. 350—450  $\mu$ , bifid, 4—6  $\mu$ , hc. cylindrical, on Myrtaceae . . . *helleri* No. 126.
3131. 4223, s. 380—670  $\mu$ , with several short teeth, hc. cylindric to clavate, or irregular, on Sapindaceae . . . *sapindi* No. 127.

3131. 5322, s. 380  $\mu$ , few, short dentate,  
 hc. irregular-cylindrical, on Burseraceae *protii* No. 128.
3131. 4222, ms. 300—450  $\mu$ , 1—2 forked,  
 pr. br. —32  $\mu$ , on Burseraceae . . . *burseracearum* No. 129.
3131. 5332, s. 200—350  $\mu$ , 3-lobed, lobes  
 entire or 2—3 dentate, hc. cylindrical or  
 clavate, on Moraceae . . . *soroceae* No. 130.
3131. 3231, s. 250—300  $\mu$ , 2 pr. br., hc.  
 globose or angular, on unknown host . *andina* No. 131.
3131. 4222, s. 250—400  $\mu$ , 2—6 dentate, —15  $\mu$ ,  
 hc. ovate or angular, on Gramineae . . *imperatae* No. 132.
3131. 4223, s. 500—1500  $\mu$ , 2—3 dentate,  
 acute, + disk, hc. antrorse, on Palmae  
*palmicola* var. *coperniciae* No. 133.
3131. 4233, s. 600—800  $\mu$ , 2—6 dentate,  
 1—2  $\mu$ , on Asclepiadaceae . . . *odontochaeta* No. 134.
3131. 5233, s. 600—800  $\mu$ , 1—3 irregular  
 teeth, —20  $\mu$ , hc. sub-globose or slightly  
 irregular, on Stemonaceae . . . *stemonae* No. 135.

No. 77. *Meliola pellucida* Gaillard, Le Gen. Mel. 103. 1892.

On Leguminosae: 101, Phaseolus? 83. On Liliaceae: Dioscorea 101.

Type locality: Ecuador, on Leguminosae.

Distribution: Ecuador 83; Peru 101.

Citation: 83\*.

No. 78. *Meliola bicornis* Winter, Hedw. 25: 99. 1886.

On Leguminosae: 348, 349, 58, 181, 166, 174, 83, Mimosa 313, 83, 261, Meibomia (Desmodium) 261, 83, 166, 313, Acacia 163, 184, Dalbergia 261, Bradburya 261, Lonchocarpus 261, Erythrina 261, Teramnus 261, Dolicholus 261. On Sapindaceae: Paullinia 166. On Apocynaceae: Oncinotis 48. On Solanaceae: Solanum 313.

Type locality: St. Thomas, Africa, on Leguminosae.

Distribution: St. Thomas, Africa 248, 249, 313, 83; Paraguay 241, 313, 83; Brazil 83, 166, 184, 174, 313; Ecuador 163; Porto Rico 58, 261; Philippines 197, South Africa 48.

Citations: 348\*, 64\*, 83\*, 261\*, 48\*, 230a.

Specimens: Rab. & Pazsch., Wint. Fungi europ. 3545. Rehm, Ascom. 1348, Union So. Afr. 9722, Balansa 4022, Winter's specimen from St. Thomas (type), Ule (cotype).

The specimen reported under this name by Spegazzini (241) was later recognized as *M. mimosicola* Speg.

The type specimen has hyphopodia both opposite and alternate with the alternate predominant in most colonies.

New records: On Meibomia cana. Panama, Corozal, Trail 17, Aug. 30, 1924, 98; Ft. Sherman, Sweetwater, Oct. 6, 1924, 1240. On Meibomia

sps. Panama, Corozal, Trail 17, Aug. 30, 1924, 85, Las Cruces Trail, Sept. 2, 1924, 143, 156, 152, France Field, Sept. 2, 1924, 191, Paitilla Pt., Sept. 8, 1924, 370, Frijoles, Sept. 19, 1924, 653, Las Cruces Trail, Sept. 28, 1924, 369, France Field, Oct. 3, 1924, 965; Costa Rica, Peralta, July 11, 1923, 329, July 14, 1923, 480, Parismina Junction, July 20, 1923, 605; Ecuador, Terecita, Oct. 29, 1924, 51. On Fabaceae. Costa Rica, Peralta, July 12, 1923, 354. Though this specimen has some of the setae simple, I place it here on account of its general agreement. On *Bradburya virginiana*, Ecuador, Barrn'nital, Nov. 17, 1924, 331. On *Wenderothia lasiocalyx* (Canavalia). Ecuador, Barrn'nital, Sept. 17, 1924, 339.

The remarks made regarding the Porto Rican specimens apply (261) essentially to these. The difference between them and my co-type specimens is so great that it appears they are not co-specific, yet the series presents such variation that it is thought advisable to report them as being of one species.

No. 79. *Meliola bicornis* Winter var. *calopogonii* Stevens, Ill. Biol. Mono. 2: 64. 1916.

On Leguminosae: *Calopogonium*.

Type locality: Porto Rico, Stevens 3492.

Citations: 29, 230 a.

Distribution: Porto Rico, 261, 9, 29; Costa Rica 277 a.

No. 80. *Meliola bicornis* var. *amerimni* n. var.

Colony epiphyllous. Capitulate hyphopodia mostly opposite. Stalk cell short, 3—4  $\mu$ ; head cell globose. Mucronate hyphopodia ampulliform. Perithecial setae none. Mycelial setae 230  $\mu$ , variously branched at tip; simply dichotomous or thrice dichotomous or irregular.

Perithecia globose. Asci evanescent.

On Leguminosae: *Amerimnum brownii*. Panama, Paitilla Pt., Sept. 8, 1924, 355. Fig. 12.

No. 81. *Meliola bicornis* Winter var. *tephrosiae* Beeli, Bul. Jard. Bot., Bruxelles 8: 1. 1923.

On Leguminosae: *Tephrosia*.

Type locality: Congo, Africa, Vanderyst 4126.

Specimen: the type.

No. 82. *Meliola bicornis* Winter var. *millettieae* Beeli, Bul. Jard. Bot., Bruxelles 7: 94. 1920.

On Leguminosae: *Millettia*.

Type locality: Congo, Africa.

No. 83. *Meliola bicornis* Winter var. *robinsonii* (Sydow, H.) n. comb.

*Meliola robinsonii* Sydow, H., Philippine Jour. Sci., C. Bot. 21: 135. 1922.

On Leguminosae: *Entada*.

Type locality: Amboina, Reliquiae Robinsonianae 2119.

Specimen: The type.

After an examination of the types I see no reason to regard *M. robinsonii* other than as a variety of *M. bicornis*.



No. 84. *Meliola dieffenbachiae* Stevens, Ill. Biol. Mono. 2: 62. 1916.

On Araceae: Dieffenbachia.

Type locality: Porto Rico, Stevens 8148.

Distribution: Porto Rico 261, 29, 212; Santo Domingo 331a.

Citations: 261\*, 29, 215\*.

New records: On Araceae: Dieffenbachia seguine, Trinidad, Cumuto, Aug. 16, 1922, 959; British Guiana, Kartabo, July 23, 1922, 630. On Montrichardia arborescens. British Guiana, Kartabo, July 22, 1922, 536, Tumatumari, July 10, 1922, 114. *Grallomyces portoricensis* and *Helminthosporium* sp. were found overgrowing specimen 114.

No. 85. *Meliola weigeltii* Kunze in Weigelt's Exs. No. 137.

On Anacardiaceae: Astronium 83, 241, 184, 255. On Sapindaceae: Cupania 166. On Melastomataceae 9.

Type locality: Paraguay, on Astronium, Balansa 3791.

Distribution: Paraguay 241, 83; Brazil 166, 184; Argentine 255.

Citation: 83\*.

Specimen: Balansa 3844.

In the original description the hyphopodia are given as alternate but Spegazzini says that they are both alternate and opposite.

No. 86. *Meliola lorantheri* Gaillard, Le Gen. Mel. 105. 1892.

*Meliola amphitricha* Fr. c. *lorantheri* Bonnet, Org. des Meliola.

On Lorantheae: Loranthus.

Type locality: Borneo.

Citation: 83\*.

No. 87. *Meliola crenata* Winter, in Gaillard, Le Gen. Mel. 104. 1892.

On Malpighiaceae.

Type locality: Brazil, Ule 543.

Citations: 83\*, 166.

New record: On Bunchosia cornifolia, Panama, Loma Bracha, Sept. 13, 1924, 496.

No. 88. *Meliola sapindacearum* Spegazzini, Rev. Argentina Hist. Nat. 1: n. 79, p. 29. 1891.

*Meliola crucifera* Starbäck, Ark. Bot. 5: 7. 1905.

*Meliola hessii* Stevens, Ill. Biol. Mono. 2: 59. 1916.

On Sapindaceae: 243, 83, 184, Urvillea 247, Sapindus 251, Cupania 255, Paullinia 261, Melicocca 259, 254a; on Flacourtiaceae: Dovyalis 278.

Type locality: Paraguay, on Sapindaceae.

Distribution: Paraguay 83, 251, 259, 243, 254a; Africa 278; Brazil 184; Argentine 255, 247; Porto Rico 261; Santo Domingo 331a.

Citations: 83\*, 263\*, 261\*, 230a.

Specimens: the type, the type of *M. hessii*.

On the authority of Spegazzini who has had ample opportunity to study *M. sapindacearum*, I place *M. crucifera* and *M. hessii* here as synonyms.

New record: On Sapindus saponaria. Panama, Culebra, Oct. 2, 1924, 932.

This remarkably beautiful *Meliola* was present in but very small quantity. It was, so far as seen hypophyllous, and did not readily separate from the leaf.

No. 89. *Meliola campylopoda* Sydow, H., Annal. Mycol. **24**: 298. 1926.

On Verbenaceae: *Vitex umbrosa*.

Type locality: Piedades de San Ramon, Costa Rica 29.

Specimen: the type.

No. 90. *Meliola longistipitata* n. sp.

Colony amphigenous but much more commonly hypophyllous, black, dense, circular, 3—40 mm. across. Mycelium pale, sub-straight, branching usually opposite. Capitate hyphopodia mostly opposite. Stalk cell long, 10—15  $\mu$ ; head cell subglobose, 7—8  $\mu$ . Mucronate hyphopodia ampulliform, rare, 18  $\approx$  2  $\mu$ . Perithecial setae none. Mycelial setae diform; (a) up to 1700  $\mu$  or more, 9  $\mu$  thick at base, slender, gracefully curved, apex very variable, cut into short acute teeth, up to about 25  $\mu$ ; (b) shorter, about 185—240  $\mu$ , and much more branched.

Perithecia globose, smooth, 123—140  $\mu$ , borne on a radiate subicle. Asci evanescent. Spores 4-septate, pale, 39  $\approx$  14  $\mu$ , elliptical.

Group number 3132. 3224. Figs. 13, 13a.

On Zingiberaceae: *Dimerocostus uniflorus*. Panama, Ft. Lorenzo trail, Oct. 10, 1924, 1186.

This is a very unique *Meliola* in many ways: the very long mycelial setae are exceptional as is their variety in apical branching; the long-pedicellate, opposite hyphopodia with the small, globose head cell are characteristic; the two kinds of setae and even the spores have characteristic shape. The short-form setae may be sometimes attached to the base of the perithecium, frequently to its subicle, but there were instances where they seem definitely to arise from ordinary mycelial threads, but near the perithecium.

No. 91. *Meliola serjanicola* Stevens & Tehon, Mycol. **18**: 14. 1926.

On Sapindaceae: *Serjania*.

Type locality: British Guiana, Stevens 798.

Citation: 266\*.

No. 92. *Meliola odontocephala* Sydow, H., Leaf. Philippine Bot. **9**: 3119. 1925.

On Sapindaceae: *Harpullia*.

Type locality: Sorsogon, Philippines 17012.

Specimen: the type.

No. 93. *Meliola wismarensis* n. sp.

Colony black, 2—4 mm. in diameter. Mycelium straight. Capitate hyphopodia opposite, crowded, stalk cell short, 3—4  $\mu$ ; head cell ovoid, regular, 11—14  $\approx$  8  $\mu$ . Mucronate hyphopodia few. Perithecial setae none. Mycelial setae 90—200  $\mu$ , divided at the apex into a number of short teeth. Perithecia 150—185  $\mu$  in diameter, globose, smooth. Asci 2-spored, evanescent. Spores 36—43  $\approx$  11  $\mu$ , 4-septate.

Group number 3132. 4221. Fig. 14.

On Solanaceae: *Solanum* sp. British Guiana, Wismar, July 14, 1922, 302.

The only other species known on the Solanaceae having the formula 3132. is *M. fuscidula* and from this our species differs essentially in the character of setal branching and presents several other differences.

A second species of the formula 3101 was present on the same leaves in but scant quantity.

No. 94. *Meliola fuscidula* Gaillard, Le Gen. Mel. 104. 1892.

On Solanaceae: *Solanum* 184, "Nepanthis" 184.

Type locality: St. Catharina, Brazil, Ule 543.

Citations: 83\*, 166.

No. 95. *Meliola kauaiensis* Stevens, Bish. Mus. Bul. 19: 39. 1925.

On Rubiaceae: *Kadua*.

Type locality: Kauai, Hawaiian Islands, Stevens 531.

Citation: 264\*.

No. 96. *Meliola harioti* Spegazzini, Rev. Argentina Hist. Nat., Buenos Aires 1: no. 78. 1891.

On Bignoniaceae: 243, 84, *Amphilophium* 249, 255. On Leguminosae: 84, 243.

Type locality: Asuncion, Paraguay, on Bignoniaceae.

Distribution: Paraguay, 243, 8; Argentine 249, 255.

Citations: 84\*, 263\*.

Specimen: the type.

Spegazzini thought this intermediate between *M. furcata* and *M. bidentata*.

No. 97. *Meliola gaillardiana* Stevens, Ill. Biol. Mon. 2: 61. 1916.

On Piperaceae: *Piper*.

Type locality: Porto Rico, Stevens 7796.

Citations: 261\*, 230a.

No. 98. *Meliola zetekii* n. sp.

Colony hypophyllous, black, irregular in outline, 1—2 cm across. Mycelium black, crooked, irregularly branching, rather close. Spot none. Capitate hyphopodia alternate or unilateral, very irregularly placed. Stalk cell short, 3—4  $\mu$ ; head cell subglobose to ovoid, often bent, 14  $\approx$  11  $\mu$ . Mucronate hyphopodia ampulliform, opposite or irregular, body short, 7  $\mu$ , neck long, narrow, 9—15  $\approx$  3  $\mu$ .

Perithecial setae none. Mycelial setae usually numerous, short, 125—185  $\mu$ , thick, 10—11  $\mu$ , intricately short branched at tip, branches 7—10  $\mu$  long, acute. Perithecia globose, smooth, 125—140  $\mu$ . Asci evanescent. Spores 4-septate, 36—39  $\approx$  11  $\mu$ .

Group number 3131. 3221. Fig. 15.

On Piperaceae: *Piper paulownifolium*.

Type locality: Panama, Barro Colorado Island, Sept. 19, 1924, 645.

Named in honor of Mr. James Zetek in recognition of his services for the Barro Colorado laboratory.

This species differs from *M. patouillardii* in its shorter and more profusely branched setae. The setae rather closely resemble these of *M. gailardiana* but the characters of the colony and mycelium are entirely different.

No. 99. *Meliola denticulata* Winter, in Gaillard, Le Gen. Mel. 98: 1892.

On Leguminosae: *Centrosema* 166, 83, *Mimosa* 184, *Sclerolobium* 102; on *Palmae*, *Roystonea* 261.

Type locality: Sao Francisco, Brazil, Ule 379, on *Centrosema*.

Distribution: Brazil 166, 83, 184; Amazon 102; Porto Rico 261.

Citations: 83\*, 230a.

No. 100. *Meliola crenatissima* Sydow, H. & P., Ann. Mycol. 14: 77. 1916.

On Leguminosae: *Calopogonium*, *Dioclea*.

Type locality: Peru, Ule 3494.

Citations: 298\*, 277a.

New record: On *Erythrina rubrinervia*. Panama, Mandingo Oct. 15, 1924, 1314.

No. 101. *Meliola cristata* n. sp.

Colonies epiphyllous, irregular, abundant, 1—12 mm in diameter, often coalescing, mycelium forming a loose network of dark, crooked threads, 6  $\mu$  in diameter, branching irregularly. Capitate hyphopodia alternate, about 17—48  $\mu$  apart, head cell 6  $\approx$  7—8  $\mu$ , ovoid or pyriform, smooth, basal cell 3—5  $\mu$  long. Mucronate hyphopodia alternate or opposite, bottle-shaped, about 17—20  $\mu$  long.

Mycelial setae few, 10  $\pm$ , clustered around the base of the perithecium, about 150—230  $\mu$  long, tip crested, 20—30  $\mu$  in diameter. Ultimate branches about 5—7  $\mu$  long. Perithecia 90—130  $\mu$ , smooth. Asci evanescent, ascospores 4-septate, brown, slightly constricted, 29—36  $\approx$  10—11  $\mu$ .

Group number 3131. 3221. Fig. 16.

On Leguminosae: *Phaseolus* sp. British Guiana, Kartabo, July 22, 1922, 614. On *Calopogonium coeruleum*, Panama, Mandigo Oct. 15, 1924, 1355 (type), Summit, Sept. 12, 1924, 466, Las Cruces trail, Sept. 28, 1924, 891, Pedro Miguel, Sept. 9, 1924, 384, France Field, Oct. 3, 1924, 981, Mandingo Oct. 15, 1924, 1355, Ecuador, Terecita, Oct. 29, 1924, 44.

In having perithecial setae with crested tips this differs from *M. chamaecristicola* and *M. subtortuosa*, both reported on legumes.

This species is quite remarkable in its setal tip which is swollen and gives rise to from 15 to 25 short branches, each echinulate.

Several species of *Meliola* of the formula 3131. have been recorded on the Leguminosae, but none of them shows the characteristic crested tip of this species.

No. 102. *Meliola cydistae* n. sp.

Colonies epiphyllous, irregular, black, 1—5 mm across. Mycelium straight, dark, 7  $\mu$  thick, branching opposite. Capitate hyphopodia alternate, 18  $\mu$  apart, antrorse. Stalk cell short, 3—4  $\mu$ ; head cell 18  $\approx$  11  $\mu$ , ovate. Mucronate hyphopodia ampulliform.



Perithecial setae none. Mycelial setae rigid, straight, black, 260—280  $\mu$  long, 7  $\mu$  thick throughout, tip crested with a whorl of very many short teeth, sometimes forked and each fork crested. Perithecia globose, smooth, 155  $\mu$ . Asci evanescent. Spores 4-septate, 32—35  $\approx$  11  $\mu$ .

Group number 3131. 3221. Fig. 17.

On Bignoniaceae: Cydista. Panama, Ancon, Sept. 1, 1924, 133.

The peculiar branching of the setal tips is quite distinctive.

No. 103. *Meliola dentifera* Sydow, H & P., Ann. Mycol. 14: 78. 1916.

On Bignoniaceae: Arrabidaea. On Cruciferae: Arabis. 9.

Type locality: Brazil, no. 3528.

Citation: 298\*.

No. 104. *Meliola anacardii* Zimmermann, Centbl. Bakt. (etc.) Abt. 2. 8: 151. 1902.

On Anacardiaceae: Anacardium.

Type locality: Java.

Distribution: Java 357; Philippines 275.

Citations: 357\*, 301.

Specimen: Phil. Bur. Sci. 21899.

While Zimmermann gives the spores as 40—44  $\mu$  and the setae as 250  $\mu$ , Sydow gives the spores as 36—40  $\mu$  and the setae as 250—400  $\mu$  with a formula therefore of 3131. 3222. Sydow refers to the striking 'conidia'.

No. 105. *Meliola geniculata* Sydow & Butler, Ann. Mycol. 9: 381. 1911.

On Anacardiaceae: Odina 307, Spondias 107.

Type locality: India, Butler 1366.

Distribution: India 307; South Africa 48.

Citation: 307\*.

Specimens: the type, Union So. Afr. 9716.

No. 106. *Meliola geniculata* Sydow & Butler var. *macrospora* Doidge, Trans. Roy. Soc. So. Africa 8: 109. 1920.

On Anacardiaceae: Rhus.

Type locality: Natal, South Africa, Doidge 10879.

Citation: 48\*.

Specimen: Doidge 9716.

No. 107. *Meliola crenato-furcata* Sydow, H. & P., Ann. Mycol. 14: 77. 1916.

On Malpighiaceae: 298, Stigmatophyllon 331a.

Type locality: Brazil, Ule 3480.

Distribution: Brazil 298; Santo Domingo 331a.

Citation 331a\*.

No. 108. *Meliola solanicola* Gaillard, Bul. Soc. Mycol. France 8: 184. 1892.

On Solanaceae: Solanum, Physalis 9.

Type locality: Ecuador.

Distribution: Ecuador 84; Brazil 184; Costa Rica 277a.

Citation: 84\*.

No. 109. **Meliola patouillardii** Gaillard. Le Gen. Mel. 109. 1892.

On Piperaceae: Piper 83, 94. On Sapindaceae: 184. On Bignoniaceae: Bignonia 184.

Type locality: Ecuador, on Piper.

Distribution: Ecuador 83, 84; Brazil 184.

Citation: 83\*.

New record: on Piper urolepidum, San José, Costa Rica, Standley and Valino No. 43332.

No. 110. **Meliola trinidadensis** Stevens & Tehon, Mycol. 18: 8. 1926.

On Leguminosae: Meibomia.

Type locality: Trinidad, Stevens 825.

Citation: 266\*.

No. 111. **Meliola diphsae** n. sp.

Colonies strictly epiphyllous, circular, black, 1—4 mm in diameter. Mycelium very crooked, cuboid, 6—7  $\mu$  thick, irregular. Capitate hyphopodia alternate. Stalk cell 3—7  $\mu$ ; head cell subglobose, ovate or truncate,  $11 \approx 9 \mu$ . Mucronate hyphopodia ampulliform,  $25 \approx 7 \mu$ .

Perithecial setae none. Mycelial setae translucent, dark, 180  $\mu$  long, at apex cut to a few short teeth, 3—14  $\mu$ . Perithecia globose, rough with conic projections, 80—90  $\mu$ . Asci evanescent. Spores 4-septate,  $32-36 \approx 11-14 \mu$ .

Group number 3131. 3211. Fig. 18.

On Leguminosae: Diphsa robinoides. Panama, Bellavista, Oct. 7, 1924, 1124.

The very crooked mycelium, resulting in cuboid structure in the older parts of the colony, taken together with the characteristic setae and perithecia are distinctive marks.

No. 112. **Meliola zollingeri** Gaillard, Le Gen. Mel. 105. 1892.

On Leguminosae: Desmodium.

Type locality: Java, Zollinger 70.

Citation: 83\*.

Specimen: the type.

No. 113. **Meliola zollingeri** Gaillard var. **minor** Beeli, Bul. Jard. Bot., Bruxelles, 7: 100. 1920.

On Leguminosae: Desmodium.

Type locality: Congo, Africa, Vanderyst 1604.

Specimen: the type.

No. 114. **Meliola evanida** Gaillard, Le Gen. Mel. 102. 1892.

On Loganiaceae: Strychnos. On Burseraceae: Tetragastris 331a.

Type locality: Loango, Africa.

Distribution: Africa 83; Santo Domingo 331a.

Citation: 83\*, 331a\*.

Specimen: the type.

No. 115. *Meliola bignoniacearum* n. sp.

Colony hypophyllous or epiphyllous. Mycelium irregularly branching. Capitulate hyphopodia alternate or unilateral, stalk cell short, 3—4  $\mu$ ; head cell regular, globose or very slightly elongated. Mucronate hyphopodia narrow, ampulliform, beaked.

Perithecial setae none. Mycelial setae 270—300  $\mu$  long, dentate or very short branched at the tip, tips acute. Perithecia globose, 107—138  $\mu$  in diameter, smooth. Asci evanescent, 2-spored. Spores  $32 \approx 9$ —12  $\mu$ , 4-septate.

Group number 3131. 3222. Fig. 19.

On Bignoniaceae: *Phryganocydia corymbosa*. Panama, Agua Clara Reservoir, Sept. 17, 1924, 576. On Arrabidaea. British Guiana, Coverden, Aug. 8, 1922, 789. On *Tabebuia*. Ecuador, Terecita, Oct. 29, 1924, 76. On *Adenocalymma*. Ecuador, Terecita, Oct. 29, 1924, 77. On Bignoniaceae indet. British Guiana, Tumatumari, July 8, 1922, 105. Panama, Juan Diaz, Aug. 18, 1923, 1160, Aug. 21, 1923, 1256, Gamboa, Aug. 17, 1923, 1081, 1110, Corozal, Trail 17, Aug. 30, 1924, 74. Paitilla Pt., Sept. 8, 1924, 371, Darien, Sept. 10, 1924, 407, Chiva-Chiva trail, Sept. 18, 1924, 608, Mandingo, Oct. 15, 1924, 1339, 1323, Baille Mona, Sept. 20, 1924, 668, Culebra, Oct. 2, 1924, 925 (type), Ft. Sherman, Sweetwater, Oct. 6, 1924, 1059; Ecuador, Terecita, Oct. 29, 1924, 82, Ambato, Nov. 14, 1924, 316.

In general character of the setal tips this species agrees closely with *M. bidentata* recorded for the Bignoniaceae, but it differs materially from that species in smaller spores, longer setae, and particularly in the character of the mycelium and hyphopodia.

The lower surface of the host leaf of Arrabidaea is densely covered with larviform trichomes. The mycelium grows among the bases of the trichomes and, completely obscured by them, only the setae and perithecia are visible above them, giving the *Meliola* a very unusual appearance.

The hosts of the specimens above reported probably represent several genera. The *Meliolas* found on these different genera of hosts exhibit certain minor differences. For example in No. 1059 the setae are often simple while in No. 316 they are rarely toothed. There is striking difference in the mycelial characters on all other genera from that on Arrabidaea, but these differences are readily accounted for by the difference in the trichomes.

No. 116. *Meliola bidentata* Cooke, Grev. 11: 37. 1882.

On Bignoniaceae: 245, 29f., Bignonia 32, 241, 174, 243, 83, 64, 184, 63, 313, Adenocalymma 255, Tecoma 261, Tabebuia 261, 332, 331a, Tanaecium 249, 255, Amphilophium 313. On Malpighiaceae 184, 313. On Anacardiaceae: 101. On Rhamnaceae: Scutia 184, 313. On Lauraceae: Litsea 45, 197. On Cyclanthaceae: Carludovica 184. On Gesneriaceae: Besleria 184, 313. On Asclepiadaceae: Gonolobus 184, 313.

Type locality: South U. S. A., Florida, on Bignonia.

Distribution: South U. S. A. 32, 83, 64, 313, 332, 174, 63; Paraguay 241, 243, 84, 313; Brazil 184, 313, 245; Peru 101; Argentine 249, 255; Philippines 197, 4, 5; Porto Rico 261; Dominica 29f., 331a.

Citations: 83\*, 64\*, 84\*, 215\*.

Specimens: Rav., Fungi. Amer. 128, 330. Ellis & Everhart, N. Amer. Fungi 1297a & b, 2545, on Bignonia, Florida, Rab., Wint. & Pazsch., Fungi europ. 3546, on Bignonia, Florida, Balansa 2730. Phil. Bur. Sci. 480.

The setal apices are variable as is also the length of the setae. (255), Rehm (184) also gives a larger measurement of the perithecia than is allowed in the type diagnosis. *M. litseae* Syd. was reported by Rehm as *M. bidentata*.

New record: On Bignoniaceae, British Guiana, Tumatumari, July 10, 1922, 105, Rockstone, July 13, 1922, 249.

A second species with opposite hyphopodia was present on 249, but in too scant quantity to determine.

No. 117. *Meliola monilispora* Gaillard, Le Gen. Mel. 101. 1892.

On unknown host.

Type locality: Congo, Africa.

Citation: 83\*.

Specimen: the type.

No. 118. *Meliola paullinae* Stevens var. *dentata* n. var.

This variety agrees with the type material from Porto Rico except that the setal tips are toothed while these of the Porto Rico specimens are always simple.

On Sapindaceae: Paullinia sp. Panama, Las Cruces Trail, Sept. 28, 1924, 878, 894, Corozal, trail 17, Aug. 30, 1924, 97, Summit, Sept. 6, 1924, 346, Tumba Muerta, Sept. 27, 1924, 852, Culebra, Oct. 2, 1924, 953, Gamboa, Aug. 16, 1923, 1080, Las Cruces Trail, Sept. 2, 1924, 168. On Paullinia cururu, Panama, Las Cruces Trail, Sept. 2, 1924, 148, 158. On Serjania sp. Panama, Brazos Brook Reservoir, Sept. 9, 1924, 724; Costa Rica, Siquirres, July 31, 1923, 703. On unknown host, Panama, Tumba Muerta, Oct. 12, 1924, 1224; Costa Rica, 593c.

No. 119. *Meliola galipeae* Sydow, H. & P., Ann. Mycol. 14: 77. 1916.

On Rutaceae: Galipea.

Type locality: Brazil, Ule 3433.

Specimens: the type.

No. 120. *Meliola evodiae* Patouillard, Rev. Mycol. 10: 139. 1888.

On Rutaceae: Evodia.

Type locality: Samoa.

Citations: 83\*, 154\*.

Specimen: the type.

No. 121. *Meliola citricola* Sydow, H. & P., Ann. Mycol. 15: 183. 1917.

On Rutaceae: Citrus.

Type locality: Luzon, Philippines, Ramos, Bur. Sci. 23747.



Distribution: Philippines 301, 275, 303.

Citation: 308.

Specimen: the type.

This is not *Meliola citricola* K. Hara (Jour. Agr. Soc. Shidzuoka Prefecture 1919), which appears to belong to the Capnodiaceae (275).

No. 122. *Meliola duggenae* n. sp.

Colonies amphigenous, black, more abundant on upper surface but smaller, 2—3 mm., below 3—10 mm. Mycelium slightly sinuous, irregular in arrangement, thin, 5  $\mu$ . Capitate hyphopodia alternate, antrorse, about 36  $\mu$  apart. Stalk cells short, 3—4  $\mu$ ; head cell ovate, 11  $\approx$  7  $\mu$ . Mucronate hyphopodia ampulliform, 14—18  $\approx$  7  $\mu$ .

Perithecial setae none. Mycelial setae numerous, 200—280  $\mu$ , forked at the tip, teeth usually two, sometimes three, branches usually about 7—11  $\mu$  long, sometimes 25  $\mu$ . Perithecia globose, smooth, 100—125  $\mu$ . Asci evanescent. Spores 4-septate, 25—28  $\approx$  11  $\mu$ .

Group number 3131. 2221 or 31 $\frac{1}{2}$ 1. 2221. Fig. 20.

On Rubiaceae: *Duggena* (Gonzalagunia). Panama, Ft. Lorenzo trail, Oct. 10, 1924, 1159.

The setae, quite constant in length and of quite characteristic branching, are distinctive.

No. 123. *Meliola duggenae* Stevens var. *panamensis* n. var.

On Rubiaceae: *Duggena panamensis*. Panama, Chagres mouth, Aug. 23, 1923, 1314. On *Duggena rudis*. Panama, Ancon Hill, Sept. 24, 1924, 701. The last specimen listed is heavily parasitized.

This differs from the type in smaller colonies, and in that the setae are usually simple, but rarely are branched precisely as are those of the type.

No. 124. *Meliola opaca* Sydow, H. & P., Leaf. Philippine Bot. 6: 1924. 1913.

On Anacardiaceae: *Dracontomelon*.

Type locality: Mindanao, Philippines 13457.

Citation: 4.

Specimen: the type.

Citation: 10a\*.

No. 125. *Meliola multiseta* Beeli, Bul. Soc. Roy. Bot. Belg. 60: 99. 1927.

On Anacardiaceae.

Group number 3131. 4224.

Specimen: Vanderyst 9872, Congo.

The mycelium is crooked. Head cells conic, but often curved, tips coarsely branched then with many fine branches.

No. 126. *Meliola helleri* Earle, Bul. N. Y. Bot. Gard. 3: 307. 1905.

On Myrtaceae: *Eugenia* 261, *Myrcia* 261.

Type locality: Porto Rico, Heller 6251.

Specimen: Heller 6251 (co-type).

Citation: 230a.

No. 127. *Meliola sapindi* Stevens n. sp.

Colonies amphigenous, more abundant and larger below, densely black, above sub-circular, below circular or elongate especially along the veins. Mycelium thick, 8—11  $\mu$ , black. Spot pale, equalling the colony. Capitate hyphopodia alternate, antrorse, about 18  $\mu$ . Stalk cell short, 3—4  $\mu$ ; head cell irregular, cylindrical, clavate, angular or bent, 28—32  $\approx$  14—21  $\mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae 380—670  $\approx$  11  $\mu$ , with several short teeth at the apex, —11  $\mu$ . Perithecia globose, smooth, 170—185  $\mu$ . Asci evanescent. Spores 4-septate, 38—47  $\approx$  18  $\mu$ .

Group number 3131. 4223. Fig. 21.

On Sapindaceae: *Sapindus saponaria*, on leaves and petioles. Panama, Culebra, Oct. 2, 1924, 932.

Accompanied by *Meliola sapindacearum*.

While this species resembles *Meliola furcillata* in formula and especially in setal tips it differs in setal length and very markedly in the hyphopodia which in *M. furcillata* are regular, but which here are very irregular.

No. 128. *Meliola protii* n. sp.

Colonies amphigenous, scattered, few, thin, 5—10 mm. across. Mycelium black, 7—8  $\mu$  thick, very crooked with short bends. Capitate hyphopodia alternate, irregularly spaced, 43—90  $\mu$ . Stalk cell short, 3—4  $\mu$ ; head cell irregularly cylindrical, 18  $\approx$  10  $\mu$ , bent or angled. Mucronate hyphopodia ampulliform, 28—32  $\approx$  7—9  $\mu$ , irregular.

Perithecial setae none. Mycelial setae 380  $\mu$  long, 11  $\mu$  thick, apices dentate with a few short teeth. Perithecia globose, smooth, 135—155  $\mu$ , on a radiate disk. Asci evanescent. Spores 4-septate, 47—54  $\approx$  18—22  $\mu$ .

Group number 3131. 5322. Fig. 22.

On Burseraceae: *Protium panamense*. Panama, Agua Clara reservoir, Sept. 17, 1924, 583.

The mycelium, taken together with the capitate hyphopodia and setae are characteristic.

No. 129. *Meliola burseracearum* n. sp.

Colony hypophyllous, diffuse, indefinite —2 cm. in diameter. Mycelium sub-straight, branching sub-rectangular.

Capitate hyphopodia alternate, cylindric to irregular, irregularly spaced, often distant. Stalk cell short, 3—4  $\mu$ ; head cell 25  $\approx$  11  $\mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae numerous, 300—450  $\mu$ , crooked, once or twice forked, pr. br. —32  $\mu$  or merely irregularly toothed. Perithecia globose, smooth, —200  $\mu$ . Asci evanescent. Spores 4-septate, 43—46  $\approx$  18  $\mu$ .

Group number 3131. 4222. Fig. 23.

On Burseraceae: *Tetragastris panamensis*. Panama, Tapia, Aug. 15, 1923, 1029, 1050, 1052, Fort Randolph, 100 feet hill trail, Sept. 23, 1924, 773.

- No. 130. *Meliola soroceae* Spegazzini, An. Mus. Nac., Buenos Aires 23: n. 1343. 1912.  
On Moraceae: Sorocea.  
Type locality: Argentine.  
Citation: 255.
- No. 131. *Meliola andina* Gaillard, Bul. Soc. Myc. d. Fr. 8: 185. 1892.  
On unknown host.  
Type locality: Ecuador.  
Citations: 84\*, 163.
- No. 132. *Meliola imperatae* Sydow, H. & P., Ann. Mycol. 15: 186. 1917.  
On Gramineae: Imperata.  
Type locality: Luzon, Philippines, Bur. Sci. 23790, Ramos.  
Specimen: Phil. Bur. Sci. 24069.
- No. 133. *Meliola palmicola* Winter var. *coperniciae* Spegazzini, An. Mus. Nac., Buenos Aires 32: 384. 1924.  
*Meliola furcata* Lévillé var. *coperniciae* Spegazzini, Fung. Paraguay, n. 152.  
On Palmae: Copernicia.  
Type locality: Paraguay.  
Distribution: Paraguay; Cuba.
- No. 134. *Meliola odontochaeta* Sydow, Philippine Jour. Sci., C. Bot., 21: 136. 1922.  
On Asclepiadaceae: Dischidia.  
Type locality: Amboina, Reliquiae Robinsonianae 2187.
- No. 135. *Meliola stemonae* Sydow, H., Philippine Jour. Sci., C. Bot., 21: 134. 1922.  
On Stemoniaceae: Stemona.  
Type locality: Amboina, Reliquiae Robinsonianae 2230.  
Specimens: the type.

#### Conspectus of Group 5, *Meliola*.

Ms. uncinata or dentate

- 31 $\frac{1}{3}$ 1. 3221, s. 150—300  $\mu$ , obtuse or dialated  
and toothed or uncinata, hc. globose,  
on Leguminosae . . . . . *heterocephala* No. 136.

Ms. simple or dentate

Ch. alternate or opposite

S. obtuse or dentate

- 31 $\frac{1}{3}$ 3. 2121, s. obtuse, 100—150  $\mu$ , rarely  
2—3 dentate, hc. clavate, on Legu-  
minosae . . . . . *mimosicola* No. 137.

- 31 $\frac{1}{3}$ 3. 3223, s. 500—750  $\mu$ , obtuse or 2—4  
dentate, 2—15  $\mu$ , hc. globose, sub-  
globose, on Leguminosae . . . . . *teramni* No. 138.

- 31 $\frac{1}{3}$ 3. 2212, myc. scant, s. 230—310  $\mu$ , obtuse or 2—4 dentate, 2—3  $\mu$ , hc. globose, ovate, on Leguminosae . . . . . *schizolobii* No. 139.
- 31 $\frac{1}{3}$ 3. 3212, s. —470  $\mu$ , obtuse, hc. oblong to irregular, on Leguminosae . . . . . *tounateae* No. 140.
- 31 $\frac{1}{3}$ 3. 4221, s. 185—230  $\mu$ , obtuse, irregularly branched, rarely simple, ch. mainly alternate, hc. cylindric or elliptic, on Sapindaceae . . . . . *variaseta* No. 141.
- 31 $\frac{1}{3}$ 3. 2223, s. —620  $\mu$ , simple or short toothed, on Sapindaceae . . . . . *nephelii* No. 142.
- S. acute or dentate
- 31 $\frac{1}{3}$ 3. 3121, s. 270  $\mu$ , acute or 2-fid, hc. globose or cylindric, on Leguminosae *perexigua* No. 143.
- 31 $\frac{1}{3}$ 3. 4222, s. 310  $\mu$ , acute or dentate, hc. sub-globose or irregular, on Leguminosae . . . . . *bicornis* var. *galactiae* No. 144.
- Ch. opposite
- 31 $\frac{1}{3}$ 2. 4231, s. 200—280  $\mu$ , obtuse or 2—3 dentate, 10  $\mu$ , hc. globose, on Opiliaceae . . . . . *opiliae* No. 145.
- 31 $\frac{1}{3}$ 2. 3222, s. 300—400  $\mu$ , acute or with 2—3 short teeth, hc. globose, oblong, on Sapindaceae . . . . . *capensis* No. 146.
- Ch. alternate
- S. obtuse
- 31 $\frac{1}{3}$ 1. 2221, s. 170—250  $\mu$ , obtuse or dialated or dentate, col. dense, hc. globose, on Rubiaceae . . . . . *anceps* No. 147.
- 31 $\frac{1}{3}$ 1. 3221, col. loose, s. 170—250  $\mu$ , obtuse or dialated or divided, —25  $\mu$ , hc. globose, ovate, on Rubiaceae *anceps* var. *mussaendae* No. 148.
- 31 $\frac{1}{3}$ 1. 3221, s. 140—250  $\mu$ , obtuse, hc. globose to oval, on Rubiaceae . . . . . *makilingiana* No. 149.
- 31 $\frac{1}{3}$ 1. 2221, on Rubiaceae . . . *duggenae* var. *panamensis* No. 123.
- 31 $\frac{1}{3}$ 1. 5222, s. 500  $\mu$ , obtuse, rarely 2 dentate, hc. cylindric or globose, on Liliaceae . . . . . *smilacis* No. 150.
- 31 $\frac{1}{3}$ 1. 3221, s. 170—200  $\mu$ , crenulate, hc. globose, on Anacardiaceae . . . . . *tapiriricola* No. 151.
- 31 $\frac{1}{3}$ 1. 3122, s. 340—470  $\mu$ , obtuse or crenate or dentate, hc. globose, on Euphorbiaceae . . . . . *alchorneae* No. 152.



- 31 $\frac{1}{3}$ 1. 5334, s. 1000—1500  $\mu$ , obtuse or toothed, hc. globose, on Monimiaceae . *megalochaeta* No. 153.
- 31 $\frac{1}{3}$ 1. 2222, s. 325—375  $\mu$ , obtuse, crenate or dentate, hc. globose, on Rhamnaceae . . . . . *rhamnicola* No. 154.
- 31 $\frac{1}{3}$ 1. 4211, s. —300  $\mu$ , simple or minutely dentate, hc. oblong, on Asclepiadaceae . *hoyae* No. 155.
- 31 $\frac{1}{3}$ 1. 5323, s. 350—700  $\mu$ , obtuse or 2—4 dentate, 12  $\mu$ , hc. ovoid to oblong, on Lauraceae . . . . . *litseae* No. 156.
- 31 $\frac{1}{3}$ 1. 4233, s. 300—700  $\mu$ , obtuse or 2—3 dentate, —10  $\mu$ , hc. cylindric, on Melastomataceae . . . . . *affinis* No. 157.
- 31 $\frac{1}{3}$ 1. 3222, s. 250—350  $\mu$ , simple and obtuse or very irregularly dentate, hc. globose to ovate or angled, often bent, on Leguminosae ! . . . . . *lonchocarpicola* No. 158.
- 31 $\frac{1}{3}$ 1. 4323, colonies 1—3 mm., dense, ms. few, obtuse or short toothed, 390—800  $\mu$ , hc. oblong, on Theaceae . . . . . *theacearum* No. 159.
- 31 $\frac{1}{3}$ 1. 2211, s. 170—280  $\mu$ , obtuse or with short teeth, hc. globose to irregular, on Verbenaceae . . . . . *aegiphilae* No. 160.
- 31 $\frac{1}{3}$ 1. 2221, s. 230—260  $\mu$ , obtuse or dentate, hc. ovoid or triangular, mycelium sinuous, on Marantaceae . . . . *marantacearum* No. 161.
- 31 $\frac{1}{3}$ 1. 4222, colony large, s. 270—350  $\mu$ , obtuse or 2 dentate, 2—5  $\mu$ , hc. lobed, on Palmae . . . . . *amadelpa* No. 162.
- 31 $\frac{1}{3}$ 1. 4222, mycelium substraight, s. 200—375  $\mu$ , obtuse or 2—3 dentate, 8—12  $\mu$ , hc. cylindrical or irregular, on Marantaceae . . . . . *heterotricha* No. 163.
- 31 $\frac{1}{3}$ 1. 4232, s. 275—460  $\mu$ , obtuse or 2—4 dentate, 3  $\mu$ , hc. cylindric to lobed, on Anonaceae . . . . . *varicuspis* No. 164.
- 31 $\frac{1}{3}$ 1. 5232, s. 600—700  $\mu$ , obtuse, usually 2—5 dentate, hc. cylindric to irregular, on Anacardiaceae . . . . *mangiferae* No. 165.
- 31 $\frac{1}{3}$ 1. 6331, s. 300  $\mu$ , obtuse or with short obtuse, irregular branches, crustose, hc. pyriform, on Liliaceae . . . . . *dracaenae* No. 166.

- 31 $\frac{1}{3}$ l. 3221, s. 200—300  $\mu$ , obtuse, rarely short branched, finely dentate, 1—2  $\mu$ , hc. very irregular, often curved, on Leguminosae . . . . . *polyodonta* No. 167.
- 31 $\frac{1}{3}$ l. 5221, s. 200—300  $\mu$ , simple or short toothed, 57  $\mu$ , hc. curved, on Malpighiaceae *xenoderma* No. 168.
- S. acute
- 31 $\frac{1}{3}$ l. 3221, s. 200—250  $\mu$ , acute or 2 to 3 dentate, hc. few, rudimentary, on Sapindaceae . . . . . *commixta* No. 169.
- 31 $\frac{1}{3}$ l. 533-, s. acute or bidentate, hc. globose, on Liliaceae . . . . . *subdentata* No. 170.
- 31 $\frac{1}{3}$ l. 4211, s. 275  $\mu$ , acute or rarely bifid, hc. globose-ovate, on Gramineae . . . *stenotaphri* No. 171.
- 31 $\frac{1}{3}$ l. 4222, colonies thin, s. 330—400  $\mu$ , acute or 2—3 dentate, hc. ovoid, on Sapindaceae . . . . . *furcillata* No. 172.
- 31 $\frac{1}{3}$ l. 5332, colonies dense, black, s. 300—350  $\mu$ , acute or 2—3 dentate, 5—8  $\mu$ , hc. ovoid, on Meliaceae . . . . . *banahaensis* No. 173.
- 31 $\frac{1}{3}$ l. 4223, s. 260—800  $\mu$ , acute or dentate, —7  $\mu$ , hc. elliptical, on Musaceae *heliconiae* No. 174.
- 31 $\frac{1}{3}$ l. 5223, s. 700  $\mu$ , acute or rarely toothed, 2—7  $\mu$ , hc. cylindric, on Magnoliaceae . . . . . *magnoliae* No. 175.
- 31 $\frac{1}{3}$ l. 5332, col. 1—15 mm., s. 400  $\mu$ , acute or 2—3 dentate, hc. globose, ovoid or lobed, on Palmae . . . . . *palmicola* No. 176.
- 31 $\frac{1}{3}$ l. 322-, s. acute or rarely dentate, hc. globose or variable, on Leguminosae *bicornis* var. *heterotricha* No. 177.
- 31 $\frac{1}{3}$ l. 6332, s. 500  $\mu$ , acute or slightly dentate, hc. elongate, entire, on Leguminosae . . . . . *castanha* No. 178.
- 31 $\frac{1}{3}$ l. 3221, s. 180—250  $\mu$ , hc. ovoid, on Araliaceae . . . . . *kusanoi* No. 179.
- 31 $\frac{1}{3}$ l. 5333, ms. 600—700  $\mu$ , hc. clavate to irregular, on Solanaceae . . . . . *cestricola* No. 180.
- 31 $\frac{1}{3}$ l. 5233, s. 600—850  $\mu$ , acute or dentate, hc. irregular, on Polygonaceae . . *panamensis* No. 181.
- 31 $\frac{1}{3}$ l. 5332, s. 300—350  $\mu$ , acute or 2—3 dentate, 5—6  $\mu$ , hc. lobed, very irregular, distant, on Palmae . . . . . *livistonae* No. 182.

- No. 136. *Meliola heterocephala* Sydow, H. & P., Annal. Mycol. 14: 356. 1916.  
 On Leguminosae: Desmodium.  
 Type locality: Philippines, Baker 3986.  
 Citations: 299\*, 301.  
 Specimens: Baker, Fungi Mal. 251. Phil. Bur. Sci. 24046.
- No. 137. *Meliola mimosicola* Spegazzini, Anal. Mus. Nac., Buenos Aires, 32: 383. 1924.  
*Meliola ludibunda* Spegazzini, Anal. Soc. Cien. Argent. no. 178. 1883. *pro parte*.  
 On Leguminosae: Mimosa.  
 Type locality: Paraguay, Balansa 3503.  
 This was earlier reported by Spegazzini as *M. bicornis*.  
 No. 138. *Meliola teramni* Sydow, H. & P., Annal. Mycol. 15: 193. 1917.  
*Meliola nigro-rufescens* Sacc. var. *teramni* Sacc., Atti Acad. Ven.-Trent.-Istr., 10: 60. 1917.  
*Meliola teramniae* Yates, Philippine Jour. Sci., C. Bot., 12: 369. 1918.  
 On Leguminosae: Teramnus.  
 Type locality: Philippines, Baker 2846.  
 Citations: 352, 273. *? type of va*  
 Specimens: Baker, Fungi Mal. 364, 553. Phil. Bur. Sci. 25344.  
 No. 139. *Meliola schizolobii* Sydow, H. & P., Annal. Mycol. 14: 76. 1916.  
 On Leguminosae: Schizolobium.  
 Type locality: Brazil, Ule 3495.  
 Specimen: the type.  
 The type specimen shows the hyphopodia to be both opposite and alternate.
- No. 140. *Meliola tounateae* n. sp.  
 Colony indefinite, thin, amphigenous. Mycelium straight. Capitate hyphopodia mostly opposite, close. Stalk cell short, 3—4  $\mu$ ; head cell oblong, slightly irregular or curved. Mucronate hyphopodia ampulliform. Perithecial setae none. Mycelial setae obtuse and simple, or dentate, —470  $\mu$ . Perithecia globose, from an alveolar disk, 90—100  $\mu$  in diameter. Asci evanescent. Spores 36—39  $\approx$  14  $\mu$ .  
 Group number 31 $\frac{1}{3}$ 3. 3212. Fig. 24.  
 On Leguminosae: Tounatea. Panama, Baille Mona, Sept. 20, 1924, 675.
- No. 141. *Meliola variaseta* n. sp.  
 Colonies hypophyllous, black, 1—4 cm. in diameter. Mycelium very crooked, thin, 5—6  $\mu$ . Spot pale, visible from opposite side of leaf. Capitate hyphopodia mostly alternate, irregularly spaced, irregular in position. Stalk cell short, 3—4  $\mu$ ; head cell cylindrical to elliptical, regular, but sometimes bent, 11  $\approx$  5  $\mu$ . Mucronate hyphopodia ampulliform. Perithecial setae none. Mycelial setae 185—230  $\mu$ , most common near the perithecia, irregularly branched, rarely simple, obtuse. Perithecia

globose, smooth, 170—185  $\mu$ . Asci evanescent. Spores 4-septate, irregular, 39—43  $\times$  14  $\mu$ .

Group number 31 $\frac{1}{2}$ . 4221. Fig. 25.

On Sapindaceae indet. Panama, Chagres, 2—3 miles of mouth, Aug. 23, 1923, 1299.

The thin, very crooked mycelium and the very large colony are characteristic.

No. 142. *Meliola nephelii* Saccardo, Bul. Orto Bot. Univ. Napoli 6: 42. 1921.

On Sapindaceae: Nephelium.

Type locality: Singapore.

Specimens. Baker, Fungi Mal. 454.

The perithecia are borne on beautiful disks that are radiate when old. Very few setae are present and these arise from the disks. They are simple or short toothed at the apex and up to 620  $\mu$  long.

A second species with opposite, conic hyphopodia, is present on some of the leaves, but without perithecia.

No. 143. *Meliola perexigua* Gaillard, Le Gen. Mel. 98. 1892.

On Leguminosae: Bauhinia 313. On Phytoloccaceae: Petiveria 309.

Type locality: Congo, Africa.

Distribution: Africa 83; Brazil 313; Porto Rico 309.

Citations: 83\*, 230a.

Specimen: the type.

No. 144. *Meliola bicornis* Winter var. *galactiae* Stevens, Ill. Biol. Mono. 2: 65. 1916.

On Leguminosae: Galactia, Stevens 7856.

Type locality: Porto Rico.

Citation: 230a.

No. 145. *Meliola opiliae* Sydow, H., Annal. Mycol. 11: 327. 1913.

On Opiliaceae: Opilia.

Type locality: South East Indies, Coimbatore, Fischer 6.

No. 146. *Meliola capensis* (Kalchbrenner & Cooke) Theissen, Annal. Mycol. 10: 20. 1912.

*Asterina capensis* Kalch. & Cooke, Grev. 9: 32. 1880.

On Sapindaceae: Hippobromus 316, 127, 45.

Type locality: South Africa, 1328.

Citations: 45\*, 317, 54\*, 56\*.

Specimen: Union So. Afr. 2499.

No. 147. *Meliola anceps* Sydow, H. & P., Annal. Mycol. 14: 76. 1916.

On Rubiaceae: Uncaria.

Type locality: Brazil 3441.

Specimen: the type.

No. 148. *Meliola anceps* Sydow, H. & P., var. *mussaendae* (Sydow, H. & P.) n. comb.

*Meliola mussaendae* Sydow, H. & P., Annal. Mycol. 15: 190. 1917.



On Rubiaceae: *Mussaenda*.

Type locality: Luzon, Philippines, Bur. Sci. 24057, Ramos.

Specimen: the type.

New records: On Rubiaceae: *Posoqueria latifolia*. Costa Rica, Sabario, Aug. 8, 1923, 793, Port Limon, Aug. 9, 1923, 838.

This variety is very close to *M. anceps*, but differs in colony character.

No. 149. *Meliola makilingiana* Sydow, H. & P., Annal. Mycol. 15: 188. 1917.

Given as *M. maquiligiana* in the Sylloge Fungorum Vol. 24.

On Rubiaceae: *Psychotria*.

Type locality: Laguna, Philippines, Baker 2146.

Specimens: the type, Baker, Fungi Mal., Phil. Bur. Sci. 550.

Both in the type specimen and in no. 550 the setae are often forked, divided into two short simple obtuse branches.

No. 150. *Meliola smilacis* Stevens, Ill. Biol. Mono. 2: 56. 1916.

On Liliaceae: *Smilax*.

Type locality: Porto Rico, Stevens 5261.

Citation: 230a.

No. 151. *Meliola tapiricola* Stevens & Tehon, Mycol. 18: 13. 1926.

On Anacardiaceae: *Tapirira*.

Type locality: British Guiana, Stevens 283.

No. 152. *Meliola alchorneae* Stevens & Tehon, Mycol. 18: 12. 1926.

On Euphorbiaceae: *Alchornea*.

Type locality: British Guiana, Stevens 198.

Citation: 266\*.

No. 153. *Meliola megalochaeta* Sydow, H., Philippine Jour. Sci., C. Bot., 21: 135. 1922.

On Monimiaceae: *Kibara*.

Type locality: Amboina, Rel. Robinson 2078.

Specimen: Robinson 2078.

No. 154. *Meliola rhamnicola* Stevens & Tehon, Mycol. 18: 14. 1926.

On Rhamnaceae: *Gouania*.

Type locality: British Guiana, Stevens 203.

Citation: 266\*.

No. 155. *Meliola hoyae* Saccardo, Atti Accad. Veneto-Trentino-Istrian, Ser. 3, 10: 60. 1919.

On Asclepiadaceae: *Hoya*.

Type locality: Los Baños, Philippines.

Specimen: the type.

The type specimen kindly loaned to me by Dr. Trotter shows the setae either simple or minutely dentate and the hyphopodia alternate, oblong; setal tips obtuse.

No. 156. *Meliola litseae* Sydow, H. & P., Annal. Mycol. 15: 187. 1917.

*Meliola litseae* Yates, Philippine Jour. Sci., C. Bot., 12: 366. 1918.

On Lauraceae: *Litsea*.

Type locality: Los Baños, Philippines, Baker 480.

Citation: 352, 354, 273.

Specimens: Baker, Fungi Mal. 549, Phil. Bur. Sci. 25845.

This was previously reported by Rehm (197) as *M. bidentata* Cooke.

No. 157. *Meliola affinis* Sydow, H. & P., Leaf. Philippine Bot. 6: 1921. 1913.

On Melastomataceae: Memecylon.

Type locality: Mindanao, Philippines 14114.

Citations: 4, 352.

Specimen: Phil. Bur. Sci. 25699.

No. 158. *Meliola lonchocarpicola* n. sp.

Colonies epiphyllous, thin, 1—5 mm. in diameter. Mycelium straight, 6—7  $\mu$  thick, translucent, regular, branching mostly opposite. Capitate hyphopodia alternate, distant, 36—90 +  $\mu$ , stalk cell short, 3—4  $\mu$ ; head cell subglobose to ovate to irregular or angled, often bent, 18  $\approx$  14  $\mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae 250—355  $\mu$ , dentation very irregular, sometimes simple, obtuse or with many short teeth, others with two branches. Perithecia globose, smooth, 140—155  $\mu$  in diameter, on a radiate subicle. Asci evanescent. Spores 4-septate, 36  $\approx$  14  $\mu$ .

Group number 31 $\frac{1}{3}$ 1. 3222. Fig. 26.

On Leguminosae: Lonchocarpus. Panama, Ft. Lorenzo Trail, Oct. 10, 1924, 1180, 1172, Brazos Brook Reservoir, Sept. 22, 1924, 721.

The colony characters, setal tips and capitate hyphopodia are very characteristic.

No. 159. *Meliola theacearum* n. sp.

Colonies amphigenous, mainly epiphyllous, 1—3 mm. in diameter or coalescing to cover the leaf, dense to crustose in old regions, loose at edge of colony. Mycelium nearly straight, black, 7—11  $\mu$  thick. Spot none. Capitate hyphopodia alternate, about 18  $\mu$  apart. Stalk cell short, 3—4  $\mu$ ; head cell oblong, 14  $\approx$  10  $\mu$ . Mucronate hyphopodia ampulliform, abundant.

Perithecial setae none. Mycelial setae very few, simple, obtuse or short toothed, 390—800  $\mu$  long. Perithecia globose, rough, on radiate disks, small, 125  $\mu$ . Asci 2—4-spored, evanescent. Spores 4-septate, 42—46  $\approx$  18—22  $\mu$ , middle cell larger.

Group number 31 $\frac{1}{3}$ 1. 4323.

On Theaceae: Schima. India, Penang Govt. Hill, Leg. E. J. Butler, July 1918, 1982.

Citation: 264a.

This is of special interest as the only true *Meliola* recorded upon any member of the Theaceae. It, in a general key, would fall near *M. litseae* from which it is separated by the nature of the setal branches.

Citation: 264a\*.

No. 160. *Meliola aegiphilae* n. sp.

Colony amphigenous, mostly epiphyllous, 1—5 mm. in diameter. Mycelium crooked, dense. Spot none. Capitate hyphopodia alternate, head cell globose to ovoid or slightly irregular. Stalk cell short, 3—4  $\mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae 170—280  $\mu$  long, simple and obtuse or with short obtuse teeth, or short obtuse branches, pale. Perithecia globose, 80—90  $\mu$ , smooth. Asci evanescent. Spores 4-septate, 25—30  $\approx$  11  $\mu$ .

Group number 31½1. 2211. Fig. 27.

On Verbenaceae: *Aegiphila*. British Guiana, Tumatumari, July 12, 1922, 221.

No. 161. *Meliola marantacearum* n. sp.

Colonies hypophyllous, thin, circular, 1—5 cm. in diameter. Mycelium sinuous, thin, 5.4  $\mu$ . Capitate hyphopodia alternate, distant, 36—50 or sometimes 130  $\mu$ . Stalk cell short, 3—4  $\mu$ , or long, 11  $\mu$ ; head cell variable, obovate, narrowly elliptical, cylindrical, or triangular, 15—18  $\approx$  7—8  $\mu$ , direction various. Mucronate hyphopodia ampulliform, long and narrow, 14—18  $\approx$  7  $\mu$ .

Perithecial setae none. Mycelial setae 230—260  $\mu$  long, simple or with short-blunt branches at tip, more abundant near the perithecia. Perithecia globose, smooth, 90—110  $\mu$ . Asci evanescent. Spores 4-septate, 25—29  $\approx$  11—13  $\mu$ .

Group number 31½1. 2221. Fig. 28.

On Marantaceae: *Calathea insignis*. Costa Rica, Columbiana, July 19, 1923, 569, 587, Siquirres, July 31, 1923, 693 (type).

The colonies are in some instances (no. 587) heavily overgrown by a parasite that renders the whole colony yellow.

No. 162. *Meliola amadelpha* Sydow, H., Leaf. Philippine Bot. 9: 3114. 1925.

On Palmae.

Type locality: Sorsogon, Philippines 16689.

Specimen: the type.

No. 163. *Meliola heterotricha* Sydow, H. & P., Leaf. Philippine Bot. 6: 1923. 1913.

On Marantaceae: *Donax*.

Type locality: Mindanao, Philippines 13541.

Citation: 4.

Specimen: Phil. Bur. Sci. 13541.

No. 164. *Meliola varicusps* Stevens & Tehon, Mycol. 18: 7. 1926.

On Anonaceae.

Type locality: Costa Rica, Stevens 132.

Citation: 266\*.

No. 165. *Meliola mangiferae* Earle, Bul. N. Y. Bot. Gard. 3: 307. 1905.

On Anacardiaceae: *Mangifera*.

Type locality: Jamaica, Earle 272.

Distribution: Porto Rico 58, 261; Jamaica 58; India 307; Philippines 293, 5, 4, 301, 86, 75, 354; Singapore 225; Straits Settlements 7; Borneo 353; Amboina 271; Santo Domingo 331a.

Citations: 271, 267, 215, 230a.

Specimens: Heller 6393, type. Syd., Fungi Exot. Exs. 250, 376, Baker, Fungi Mal. 452, Phil. Bur. Sci. 22698.

New records: On Anacardiaceae: *Anacardium occidentale*. Costa Rica, Guapiles, July 18, 1923, 506; Panama, Gatun, Aug. 24, 1923, 1247. The agreement between these specimens and these on the Mango is close, though there are slight differences: the capitate hyphopodia are slightly more irregular and the mycelial setae are often more deeply forked. On *Mangifera indica*. Panama, Tumba Muerta, Oct. 12, 1924, 1233, Mandingo, Oct. 15, 1924, 1330, 1344, Las Cruces trail, Sept. 2, 1924, 165, Sept. 28, 1924, 883, Gatun, Oct. 11, 1924, 1212, Brazos Brook reservoir, Sept. 22, 1924, 729, 765, Culebra, Oct. 2, 1924, 915, Ft. Sherman, Sweetwater, Oct. 6, 1924, 1073, Corozal, Trail 17, Aug. 30, 1924, 109, Miraflores, Sept. 15, 1924, 507, France Field, Sept. 2, 1924, 223; British Guiana, Demerrara-Essequibo R. R., July 15, 1922, 366; Trinidad, St. Augustine, Aug. 13, 1922, 844, 835.

No. 166. *Meliola dracaenae* Stevens, Bish. Mus. Bul. 19: 40. 1925.

On Liliaceae: *Dracaena*.

Type locality: Kauai, Hawaiian Islands, Stevens 419.

Citation: 264\*.

No. 167. *Meliola polyodonta* Sydow, H., Annal. Mycol. 24: 306. 1926.

On Leguminosae.

Type locality: San Pedro de San Ramon, Costa Rica 385.

Specimen: the type.

No. 168. *Meliola xenoderma* Sydow, H., Annal. Mycol. 24: 311. 1926.

On Malpighiaceae: *Malpighia glabra*.

Type locality: San Pedro de San Ramon, Costa Rica 184.

Specimen: the type.

No. 169. *Meliola commixta* Sydow, H., Leaf. Philippine Bot. 9: 3117. 1925.

On Sapindaceae: *Nephelium*.

Type locality: Sorsogon, Philippines 15686.

Specimen: the type.

No. 170. *Meliola subdentata* Patouillard, Jour. Bot. (Paris) 11: 347. 1897.

On Liliaceae: *Dracaena*.

Type locality: Tonkin, China.

Citation: 267.

No. 171. *Meliola stenotaphri* Stevens, Ill. Biol. Mono. 2: 41. 1916.

On Gramineae: *Stenotaphrum*.

Type locality: Porto Rico, Stevens 4304.

Citations: 261\*, 230a.



No. 172. *Meliola furcillata* Doidge, Trans. Roy. Soc. So. Africa 5: 738. 1917.  
On Sapindaceae: *Schmidelia*.

Type locality: Natal, South Africa 1573.

Citations: 45\*, 51.

Specimen: the type.

This was originally reported by error as on *Maesa*.

No. 173. *Meliola banahaensis* Yates, Philippine Jour. Sci., C. Bot. 13: 364. 1918.

On Meliaceae: *Dysoxylum*.

Type locality: Philippines, Bur. Sci. 28011, Ocampo.

Specimen: the type.

No. 174. *Meliola heliconiae* n. sp.

Colony hypophyllous, black, 8—12 cm. in diameter. Mycelium slightly crooked, often straight with the leaf veins, branching usually opposite. Capitulate hyphopodia alternate, often very far apart. Stalk cell short. 3—4  $\mu$ ; head cell elliptical, mostly regular,  $14 \approx 7 \mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae long, slightly curved, not abundant. 260—800  $\mu$ , simple and acute at apex or with a few short teeth. Perithecia globose, smooth, 185  $\mu$  in diameter. Asci evanescent. Spores 4-septate,  $43 \approx 14 \mu$ .

Group number: 3141, 4223. Fig. 29.

On Musaceae: *Heliconia* sp. Panama, Barro Colorado, Aug. 26, 1924, 20 (type), Aug. 29, 1924, 44, Sept. 19, 1924, 633, Brazos Brook Reservoir, Sept. 22, 1924, 708.

The colonies in 708 were heavily parasitized and it is possible that this is a distinct species.

No. 175. *Meliola magnoliae* Stevens, Ill. Biol. Mono. 2: 55. 1916.

On Magnoliaceae: *Magnolia*.

Type locality: Porto Rico, Stevens 4738.

Distribution: Porto Rico 261; Florida 254.

Citations: 261\*, 230a.

Specimens: Rav. Fungi Amer. 83 sub *Meliola amphitricha*.

No. 176. *Meliola palmicola* Winter, Hedw. 26: 31. 1887.

*Meliola contigua* Karsten & Roumeguère, Rev. Mycol. 12: 77. 1890.

On Palmae 155, 264, Sabal 351, 83, 64, 174, 332, Phoenix 307, 48, 8, Serenoa 61, Thrinax 9. On 'Palmieri acaulis' 128.

Type locality: Florida, U. S. A.

Distribution: Tonkin 155, 83, 207, 128; Southern U. S. 64, 332, 254, 351, 61; India 307, 8; South Africa 48; Cuba 254; Hawaii 264.

Citations: 83\*, 64\*, 48\*, 8\*.

Specimens: Rab., Wint. & Pazsch, Fungi europ. 3547, 2846. Sub *amphitricha* 3547, Ellis & Everhart, N. Amer. Fungi 1297 C, Rav., Fungi

Amer. 81. Ellis & Everhart, Fungi Col. 1432, Roum., Fungi Sel. Gal. Exs. 5421 sub *M. contigua*, Balansa 1887—1888.

Reported also variously as *Meliola amphitricha* var. *palmarum* on Phoenix, Calcutta, *M. furcata* and *M. glabra*.

New records: Panama, Barro Colorado, Aug. 26, 1924, 4, Culebra, Oct. 2, 1924, 940.

The present specimens agree with the figures and description by Winter and with the specimen distributed by Winter (Rab.-Wint., Fungi europ. 3547); with my own collection from Hawaii (678); with a specimen from Farlow's herbarium (Florida Mch. 1914); with Earle's 20275 from Mississippi and Tracy's 32405 from Mississippi.

These specimens however do not agree with the statements of Gaillard who says that the capitate hyphopodia are often several-celled and that the head cell is globose or ovoid; forming a strong contrast to the long, irregular, capitate cells found in all of the specimens mentioned above.

A specimen from South Africa (5607) distributed by I. B. Pole Evans has a mycelium distinctly different in color and capitate hyphopodia and should probably be regarded as different.

No. 177. *Meliola bicornis* Winter var. *heterotricha* Spegazzini, Bol. Acad. Nac. Cien., Cordoba 23: 88. 1919.

On Leguminosae: Desmodium.

Type locality: Apiahy, Brazil, Puiggari 109.

No. 178. *Meliola castanha* Theissen, Brot. 12: 24. 1914.

On Leguminosae.

Type locality: S. Leopoldo, Brazil.

No. 179. *Meliola kusanoi* Hennings, Bot. Jahrb. (Engler) 28: 272. 1901.

On Araliaceae: Hedera.

Type locality: Kusano, Japan.

Citations: 267, 153.

No. 180. *Meliola cesticola* n. sp.

Colonies densely black, almost crustose, circular, 1—4 mm in diameter, amphigenous. Mycelium coarse, 11  $\mu$ . Spot blanched, with a pale zone. Capitate hyphopodia alternate, crowded. Stalk cell short. 3—4  $\mu$ ; head cell clavate to irregularly lobed. Mucronate hyphopodia ampulliform, 18  $\approx$  7  $\mu$ .

Perithecial setae none. Mycelial setae simple and acute or cut to several (2—4) short (7—22  $\mu$ ) acute teeth, black, 600—700  $\mu$  long, 11  $\mu$  thick at base. Perithecia globose, smooth, 200—230  $\mu$ . Asci evanescent. Spores 4-septate, 47—51  $\approx$  25  $\mu$ .

Group number 3141. 5333. Fig. 30.

On Solanaceae; Cestrum. Costa Rica, Peralta, July 12, 1923, 346.

This is a very distinct species as is shown by its colony, hyphopodia and setae.

No. 181. *Meliola panamensis* n. sp.

Colony hypophyllous, black, indefinite, up to 6 cm. or more across. Mycelium crooked, branching, irregular. Capitate hyphopodia alternate, scattered. Stalk cell short, 3—4  $\mu$ ; head cell oblong, somewhat irregular, 18—22  $\mu$   $\approx$  7—11  $\mu$ , sometimes bent. Mucronate hyphopodia ampulliform, scattered, very long and narrow, 29  $\mu$   $\approx$  7  $\mu$ .

Perithecial setae none. Mycelial setae black, 11  $\mu$  thick at base, 600—850  $\mu$ , simple and acute or denticulate at tip. Perithecia globose, smooth, 185—230  $\mu$ . Asci evanescent. Spores 4-septate, 41—51  $\mu$   $\approx$  15—18  $\mu$ , central cell largest.

Group number 31 $\frac{1}{2}$ 1. 5233. Fig. 31.

On Polygonaceae: *Coccoloba* sp. Panama, Frijoles, Oct. 14, 1924, 1256.

The mycelium is much more crooked and irregular than that of *M. coccolobis*; the setae are darker, thicker, longer, and are usually dentate; the capitate hyphopodia also differ.

No. 182. *Meliola livistonae* Yates, Philippine Jour. Sci., C. Bot. 12: 366. 1917.

On Palmae: *Livistona*.

Type locality: Luzon, Philippines, Bur. Sci. 25632, Yates.

Specimen: the type.

This species is quite distinct from others on the palms.

Conspectus of Group 6, *Meliola*.

## Ch. alternate or opposite

- |   |                 |          |
|---|-----------------|----------|
| 3123. 3222, s. 310 $\mu$ , obtuse, ch. ovoid, on<br>Apocynaceae . . . . .                 | <i>wardii</i>   | No. 183. |
| 3123. 4232, s. 300—400 $\mu$ , obtuse, hc. clavate<br>to irregular, on Rutaceae . . . . . | <i>aterrima</i> | No. 184. |

## Ch. alternate

## Setae attenuate or thickened

- |   |                   |          |
|---|-------------------|----------|
| 3121. 4242, s. 300—350 $\mu$ , ch. few, rudimentary, on Icacinaceae . . . . . | <i>cladophila</i> | No. 185. |
|---|-------------------|----------|

## Setae obtuse

- |   |                    |          |
|---|--------------------|----------|
| 3121. 4232, s. 350—400 $\mu$ , hc. globose, on<br>Musaceae . . . . .              | <i>musae</i>       | No. 186. |
| 3121. 2231, s. 170—230 $\mu$ , hc. sub-globose,<br>on Apocynaceae . . . . .       | <i>depressula</i>  | No. 187. |
| 3121. 4221, s. 170 $\mu$ , hc. ovate, on Bignoniaceae                             | <i>tecomae</i>     | No. 188. |
| 3121. 3121, s. 100 $\mu$ , hc. ovate, on Cyatheaceae                              | <i>cornuta</i>     | No. 189. |
| 3121. 4232, s. 350 $\mu$ , hc. sub-reniform or<br>lobed, on Leguminosae . . . . . | <i>pazschkeana</i> | No. 190. |
| 3121. 4221, s. 180 $\mu$ , ch. much lobed, clavate,<br>on Palmae . . . . .        | <i>mauritiae</i>   | No. 191. |
| 3121. 4221, s. 150—250 $\mu$ , obtuse, col. crustose,<br>on Myrtaceae . . . . .   | <i>densa</i>       | No. 192. |

3121. 4231, s. 150—250  $\mu$ , obtuse, hc. oval  
or sub-lobed, on Oleaceae . . . . . *petiolaris* No. 193.
3121. 5222, s. 340—400  $\mu$ , hc. globose, on  
Euphorbiaceae . . . . . *cluytia* No. 193 a.
3121. 5332, s. 250—500  $\mu$ , hc. very long-stalked,  
on Lauraceae . . . . . *uncitricha* No. 194.
3121. 6332, s. diform, obtuse, a 150—200  $\mu$ ,  
b 250—450  $\mu$ , hc. mostly irregular, my-  
celium very crooked, on Lauraceae . . . *drepanochaeta* No. 195.
3121. 5343, s. 600—900  $\mu$ , obtuse, hc. lobed,  
on unknown host . . . . . *megalopoda* No. 196.
- Setae acute
3121. 4232, s. 350—450  $\mu$ , hc. globose, on  
Anacardiaceae . . . . . *hamata* No. 197.
3121. 5222, s. 295—330  $\mu$ , hc. irregular,  
ovate or lobed, on Loranthaceae . . . *arcuata* No. 198.
- Setae acute or obtuse
3121. 4232, s. 250—350  $\mu$ , hc. angular or  
irregular, on Ulmaceae . . . . . *celticola* No. 199.
3121. 4222, colonies 1 cm., dense, s. 250  
—340  $\mu$ , hc. pyriform, on Myristicaceae *uncinata* No. 199a.
- Setae tips not recorded
3121. 223-, hc. oval, on Verbenaceae . . . *lippiae* No. 200.
- Setae uncinata or straight
- 311 $\frac{1}{2}$ . 4232, s. 350—500  $\mu$ , hc. cylindric or  
oval, on Apocynaceae . . . . . *intermedia* No. 201.
- 311 $\frac{1}{2}$ . 6332, s. 450—500  $\mu$ , acute, uncinata or  
crooked, hc. ovoid, on unknown host . . *balansae* No. 202.
- No. 183. *Meliola wardii* n. sp.

Colonies amphigenous circular, 1—10 mm., densely black and velvety with setae. Mycelium 7—9  $\mu$  thick, dark brown, straight, regular, branching opposite, often so crowded as to be crustose, often somewhat loose. Capitate hyphopodia alternate, crowded or not. Stalk cell short, 3—4  $\mu$ ; head cell usually regular, often somewhat irregular, subglobose, obovate to short cylindric, 14  $\approx$  11  $\mu$ . Mucronate hyphopodia ampulliform, often merely conic, 14  $\approx$  5  $\mu$ .

Perithecial setae none. Mycelial setae scant in young colonies, abundant in old, 150—230  $\mu$  long, 8—10  $\mu$  thick at base, broadly or closely uncinata, obtuse. Perithecia globose, smooth, 185—200  $\mu$ . Asci evanescent. Subicular disks at first entire, later fimbriate. Spores 4-septate, 32—36  $\approx$  14  $\mu$ .

Group number 3123. 3221. Fig. 32.

On Apocynaceae: *Malouetia panamensis*. Panama, France Field, Sept. 2, 1924, 184 (type), Frijoles, Oct. 14, 1924, 1287. On *Tabernaemontana*.



British Guiana, Rockstone, July 17, 1922, 452, 474, Kartabo, July 21, 1922, 503. Named in honor of Mr. R. Ward of the Botanic Gardens, Georgetown, British Guiana.

The Guiana specimens do not agree precisely with those from Panama, since in the Guiana specimens the setae are longer, —310  $\mu$ , and the perithecia smaller, 80—100  $\mu$ . The specimens from Guiana sometimes show both opposite and alternate hyphopodia, thus giving a formula 3123. 3221. Moreover, the Panamanian material shows great variation in itself as follows:

In some colonies the hyphopodia are so crowded that the distance between hyphopodia is less than the thickness of a hyphopodium while in other cases they are not so crowded (See Fig. 32). The subicular disks are quite characteristic. They differ distinctly from the mycelium in color, being much more pale and translucent. In their early stages they are entire and appear honeycombed rather than radiate. In later stages they give off a circle of radiating, fringing hyphae.

The mycelial setae are sometimes present in great profusion rendering the colony velvety and they are sometimes absent even in colonies of considerable size and age. Usually when the first perithecia begin to develop two or three setae appear, when several perithecia have developed the setae are usually numerous. In some colonies they are all broadly uncinata (Fig. 32), in others closely coiled.

Long, simple mycelial branches that bear only ampulliform hyphopodia are of rather frequent occurrence. The Guiana specimen also is very distinctly parasitic as is shown by the spots visible from both leaf surfaces and often exceeding the colony in size. It is often densely overgrown by a black *Helminthosporium*, with toruloid conidiophores.

No. 184. *Meliola aterrима* Sydow, H., Ann. Mycol. 24: 294. 1926.

On Rutaceae: *Zanthoxylum procerrum*.

Type locality: San Pedro de San Ramon, Costa Rica 113a.

Specimen: the type.

No. 185. *Meliola cladophila* Sydow, H., Ann. Mycol. 22: 421. 1924.

On Icacinaceae: *Apodytes*.

Type locality: South Africa, van der Byl 1661.

Citation: 18b.

No. 186. *Meliola musae* (Kunze) Montagne, Syll. Crypt. no. 905. 1856. *Myxothecium musae* Kunze in Weigelt exs. Surinam in Fries, Syst. Myc. 3: 232. 1829.

*Meliola curviseta* L  veill   in herb.

On Musaceae: *Musa* 76, *Urania* 141, 147, 83, *Ravenala* 101, 9, *Heliconia* 131, 19, 20, 83. On Araceae: *Philodendron* 184. On Leguminosae: 9. Type locality: Surinam, on *Musa*.

Distribution: Surinam 76, 141, 131, 19, 20, 147, 83; Brazil 184; Amazon 101; Australia 31.

Citations: 131\*, 20\*, 15\*, 83\*, 69\*, 2.

Specimens: the type, Ule 18.

New records: On Musaceae: *Heliconia* sp., on Leaves, Panama, Sweet-water, Oct. 6, 1924, 1067, Brazos Brook Reservoir, Sept. 22, 1924, 708, on stems. Barro Colorado, Aug. 26, 1924, 20a, 633a. On *Heliconia latipatha*. Panama, Chiva-Chiva trail, Sept. 18, 1924, 596.

These specimens agree very closely with the description given by Gaillard as drawn from material from Paramaribo collected in 1844 with the exception of the shape of the capitate hyphopodia which in all of my specimens is more angular and irregular than in these described and figured by Gaillard.

No. 187. *Meliola depressula* Sydow, H. & P., Ann. Mycol. 15: 184. 1917.

On Apocynaceae: *Urceola*.

Type locality: Laguna, Philippines, Baker 3122.

Specimens: Baker, Fungi Mal. 548. Phil. Bur. Sci. 548.

No. 188. *Meliola tecomae* Stevens, III. Biol. Mono. 2: 53. 1916.

On Bignoniaceae: *Tecoma*.

Type locality: Porto Rico, Stevens 9332.

Distribution: Porto Rico 261; Dominica 29f.

Citations: 261\*, 29, 230a.

No. 189. *Meliola cornuta* Rehm, Hedw. 40: 163. 1901.

On ferns 184, on Cyatheaceae: *Dicksonia* 9.

Type locality: Brazil, Ule 860.

Citation: 153.

No. 190. *Meliola pазschkeana* Gaillard, Le Gen. Mel. 95. 1892.

On Leguminosae: *Bauhinia*.

Type locality: Brazil, Ule 1002.

Citations: 83\*, 166, 184, 312, 313.

Specimens: Rab., Wint. & Pazsch., Fungi europ. 3854.

Theissen (313) calls attention to the similarity of this with *M. manihoticola*.

No. 191. *Meliola mauritiae* n. sp.

Colonies epiphyllous, roughly circular, not dense, confluent. Perithecia about 60—144  $\mu$  in diameter, slightly rough. Setae dark, brittle, curved into a long open hook, obtuse, about  $180 \approx 7 \mu$ , borne on the mycelium and almost always very near the bases of the perithecia. Asci evanescent. Spores 4-septate,  $43 \approx 14 \mu$ . Mycelial branches mainly opposite, rarely alternate. Capitate hyphopodia alternate, often light brown, clavate, head cell irregular, 3—4 lobed, about  $25 \approx 18 \mu$ ; stalk cell about 10  $\mu$ . Mucronate hyphopodia opposite and alternate, light brown.

Group number 3121. 4221. Fig. 33.

On Palmae: *Mauritia* sp. Trinidad, Guanapo, Aug. 16, 1922, 925, 908.

The setae are quite abundant and of characteristic shape, but are so brittle that they were seldom found attached even in celloidin mounts.

They are very rare on the mycelium except in the immediate neighborhood of the perithecia where they occur in large numbers and cluster so closely around the perithecium that it is difficult to determine whether or not they are borne on it. Close study, however, reveals that they arise from the mycelium within about  $75\ \mu$  of the perithecium and not from the perithecium itself.

An undetermined species of *Arthrobotryum* was found overgrowing the *Meliola*. A species of *Grallomyces* was also found and one of the Hemisphaeriales.

No. 192. *Meliola densa* Cooke, Grev. 12: 85. 1884.

On Myrtaceae: Eucalyptus 37, 83, 31. On Aquifoliaceae: Ilex (?) 83, 37.

Type locality: Queensland, Australia, on Eucalyptus.

Distribution: Australia 37, 83, 31; India 83, 37.

Citation: 31\*.

Specimen: the type. Fig. 34.

Examination of the type shows the following characters: colony 1 cm. in diameter, velvety, black, dense, crustose; setae  $150-250\ \mu$ , obtuse, strongly curved at tip, mycelium thick,  $7-8\ \mu$ , crooked, anastomosing, capitate hyphopodia alternate, subglobose to ovate, or cylindrical.

The young colonies are without setae and the mycelium moderately loose, but with age the colony becomes densely compact, crustose and thickly covered with the black setae.

No. 193. *Meliola petiolaris* Doidge, Trans. Roy. Soc. So. Africa 8: 142. 1920.

On Oleaceae: Olea.

Type locality: Natal, South Africa, Doidge 11558.

Citations: 51\*, 55\*.

Specimen: the type.

No. 193a. *Meliola cluytiae* van der Bijl, So. African Jour. Sci. 23: 283. 1926.

On Euphorbiaceae: Cluytia.

Type locality: So. Africa.

No. 194. *Meliola uncitricha* Sydow, H., Ann. Mycol. 24: 309. 1926.

On Lauraceae: Phoebe neurophylla.

Type locality: Cerro de San Isidro pr. San Ramon, Costa Rica 169c.

Specimen: the type.

No. 195. *Meliola drepanochaeta* Sydow, H., Ann. Mycol. 24: 302. 1926.

On Lauraceae: Persea cordata.

Type locality: Piedades de San Ramon, Costa Rica 163.

Specimen: the type.

No. 196. *Meliola megalopoda* Sydow, H. & P., Ann. Mycol. 15: 189.

On unknown host.

Type locality: Laguna, Philippines, Baker 3070.

Specimens: Baker, Fungi Mal. 551. Phil. Bur. Sci. 551.

No. 197. *Meliola hamata* Sydow, H. & P., Ann. Mycol. 12: 548. 1914.

On Anacardiaceae: Buchanania.

Type locality: Bulacan, Philippines, Bur. Sci. 21775, Ramos.

Citations: 352, 301, 354.

Specimen: Phil. Bur. Sci. 23785

No. 198. *Meliola arcuata* Doidge, Trans. Roy. Soc. So. Africa 5: 737. 1917.

On Loranthaceae: Viscum.

Type locality: Natal, South Africa 2364.

Citation: 45\*.

Specimen: Doidge 8389.

No. 199. *Meliola celticola* Yates, Philippine Jour. Sci., C. Bot., 13: 366. 1918.

On Ulmaceae: Celtis.

Type locality: Luzon, Philippines, Bur. Sci. 27746, Ramos.

Specimen: the type.

This differs from *M. celtidiae* in size and character of the spots and in the hooked setae.

No. 199 a. *Meliola uncinata* Sydow, H., Leaf. Philippine Bot. 9: 3120. 1925.

On Myristicaceae: Horsfieldia.

Type locality: Sorsogon, Philippines 17222.

Specimen: the type.

No. 200. *Meliola lippiae* Maublanc, Bul. Soc. Myc. France 19: 291. 1903.

On Verbenaceae: Lippia.

Type locality: Dahomey.

Citation: 135\*.

No. 201. *Meliola intermedia* Gaillard, Le Gen. Mel. 94. 1892.

On Apocynaceae 83. On Rubiaceae 83. On Anacardiaceae: Terebinthe 184. On Euphorbiaceae 184. On Araceae 184. On Menispermaceae 184. On Combretaceae: Laguncularia 184.

Type locality: Congo, Thallon 31, on Apocynaceae.

Distribution: Congo 83; Brazil 184.

Citation: 83\*.

Specimens: Balansa 4320. Thallon 40.

No. 202. *Meliola balansae* Gaillard, Le Gen. Mel. 95. 1892.

On unknown host.

On Simarubaceae: Castela 184.

Type locality: Paraguay, Balansa no. 4018.

Distribution: Paraguay 83, 313; Brazil 184.

Citation: 83\*.

Specimen: the type.



Conspectus of Group 7, *Meliola*.

## Setae obtuse

3113. 4232, colony crustose, s. 340  $\mu$ , hc. globose,  
on Sapindaceae . . . . . *lyoni* No. 203.
3113. 3223, s. 450—550  $\mu$ , hc. globose, on  
Rutaceae . . . . . *cadigensis* No. 204.
3113. 5232, s. —300  $\mu$ , obtuse, hc. sub-globose,  
densely crowded, on Euphorbiaceae . . . *cladophaga* No. 205.
3113. 3223, s. 300—400  $\mu$ , from disk, hc. sub-  
globose, curved, on Apocynaceae . . . . *isothea* No. 206.
3113. 3213, s. 460—600  $\mu$ , hc. oblong, on  
Sapotaceae . . . . . *sideroxyli* No. 207.
3113. 3222, s. 400  $\mu$ , hc. oblong, on Verbenaceae *callicarpae* No. 208.
3113. 4221, s. 80—200  $\mu$ , hc. ovoid, on Legu-  
minosae . . . . . *constipata* No. 209.
3113. 4231, s. 170—250  $\mu$ , hc. oblong, mostly  
opposite, on Leguminosae . . . . . *koae* No. 210.
3113. 5332, s. 400  $\mu$ , hc. lobed, on Rutaceae . *monensis* No. 211.
3113. 3221, s. 100—200  $\mu$ , on Euphorbiaceae . *manihoticola* No. 212.
3113. 3222, s. —330  $\mu$ , hc. entire, oblong or  
elliptical, on Apocynaceae. . . . . *modesta* No. 213.

## Setae acute or obtuse

3113. 4222, s. 220—325  $\mu$ , hc. ovoid or truncate,  
on Myrsinaceae . . . . . *groteana* No. 214.
3113. 4334, s. 600—1000  $\mu$ , biform, acute or  
obtuse, on Rhizophoraceae . . . . . *bruguierae* No. 215.

## Setae acute

3113. 5223, s. 900—1000  $\mu$ , hc. cylindrical, mostly  
opposite, on Myrtaceae. . . . . *amomicola* No. 216.
3113. 4121, s. 125—200  $\mu$ , hc. globose, on Le-  
guminosae . . . . . *desmodii* No. 217.
3113. 4222, colony arachnoid, thin, s. 200—  
400  $\mu$ , hc. ovoid, sub-globose or pyriform, on  
Leguminosae . . . . . *abrupta* No. 218.
3113. 4221, s. 150—200  $\mu$ , on Leguminosae . *pithecolobiicola* No. 219.
3113. 4232, s. 250—500  $\mu$ , acute, hc. ovate, on  
unknown host . . . . . *ludibunda* No. 220.
3113. 4222, s. 150—310  $\mu$ , hc. sub-globose, on  
Apocynaceae . . . . . *laccipoda* No. 221.
3113. 4223, s. 350—600  $\mu$ , hc. sub-globose, on  
Phytolaccaceae. . . . . *incompta* No. 222.
3113. 2222, colony dense, crustose, s. —520  $\mu$ ,  
acute, on unknown host . . . . . *rehmii* No. 223.

3113. 4222, colony dense, s. 350—470  $\mu$ , hc.  
 ovoid, oblong, on Opiliaceae . . . . . *champereiae* No. 224.
3113. 4322, colony dense, s. 250—300  $\mu$ , acute,  
 hc. ovoid, on Oleaceae . . . . . *osmanthi* No. 225.
3113. 4233, colony dense, s. 250—400  $\mu$ , hc.  
 ovoid, on Lecythidaceae . . . . . *indica* No. 226.
3113. 4233, s. —650  $\mu$ , on Lecythidaceae . . . . . *indica* var. *caryae* No. 227.
3113. 4233, s. 120—250  $\mu$ , hc. globose, on  
 Lauraceae . . . . . *saccardoi* No. 228.
3113. 4222, colony dense, s. 250—400  $\mu$ , hc.  
 ovoid, globose, on Vitaceae . . . . . *bakeri* No. 229.
3113. 2221, s. 250  $\mu$ , hc. ovoid, globose, on  
 Asclepiadaceae . . . . . *telosmae* No. 230.
3113. 4222, s. 200—300  $\mu$ , hc. clavate, on  
 Meliaceae . . . . . *atro-velutina* No. 231.
3113. 3223, s. 300—700  $\mu$ , on Meliaceae . . . . . *parvula* No. 232.
3113. 3222, s. 300—400  $\mu$ , hc. elliptical, on  
 Sapindaceae . . . . . *thouinia* No. 233.
3113. 4233, s. 600—1000  $\mu$ , hc. entire or irre-  
 gular, on Anacardiaceae . . . . . *pachychaeta* No. 234.
3113. 4233, s. —750  $\mu$ , hc. ovate, on Araliaceae . . . . . *didymopanax* No. 235.

Setae acuminate

3113. 6231, s. 200—800  $\mu$ , hc. globose, on  
 Convolvulaceae . . . . . *francevilleana* No. 236.

No. 203. *Meliola lyoni* Stevens, Bish. Mus. Bul. 19: 37. 1925.

On Sapindaceae: Dodonaea.

Type locality: Hawaii, Stevens 843.

Citations: 264\*, 215\*.

No. 204. *Meliola cadigensis* Yates, Philippine Jour. Sci., C. Bot., 12: 363. 1917.

On Rutaceae: Glycosmis.

Type locality: Luzon, Philippines, Bur. Sci. 25822, Yates.

Distribution: Luzon 352; India 8.

Citation: 8\*.

No. 205. *Meliola cladophaga* Sydow, H., Annal. Mycol. 24: 299. 1926.

On Euphorbiaceae: Croton.

Type locality: San Pedro de San Ramon, Costa Rica 207.

Specimen: the type.

No. 206. *Meliola isothea* Sydow, H., Annal. Mycol. 24: 303. 1926.

On Apocynaceae: Tabernaemontana.

Type locality: Piedades de San Ramon, Costa Rica. 131, 132.

Specimen: the type.

No. 207. *Meliola sideroxyli* Stevens, Bish. Mus. Bul. 19: 35. 1925.

On Sopotaceae: *Sideroxylon*.

Type locality: Kauai, Hawaiian Islands, Swezey 1160.

Citation: 264\*.

No. 208. *Meliola callicarpae* Sydow, H. & P., Annal. Mycol. 10: 80. 1912.

*Meliola callista* Rehm, Leaf. Philippine Bot. 6: 2191. 1914.

On Verbenaceae: *Callicarpa* 4, 5, 354, 286, *Premna* 201.

Type locality: Manila, Philippines, Merrill 7421.

Citations: 4, 301, 5, 354.

Specimens: the type, type of *M. callista*, Baker 41.

*M. callista* was originally described by Rehm as with spores 3-septate, but they are in reality 4-septate. The original description calls for 8-spored asci, but this I am unable to verify.

No. 209. *Meliola constipata* Spegazzini, An. Mus. Nac., Buenos Aires 32: 370. 1924.

*Meliola bicornis* Winter var. *constipata* Spegazzini, An. Soc. Cient., Argentina 26: 20, no. 57. 1888.

*Meliola desmodiicola* Beeli, Bul. Jard. Bot., Bruxelles, 7: 94. 1920.

On Leguminosae: 241, 83, *Desmodium* 9. On Euphorbiaceae 9. *Croton* 166, 174.

Type locality: Argentine.

Distribution: Paraguay 241, 83; Brazil 166, 174; Africa, Congo 9.

Specimens: Rab., Wint.-Pazsch. Fungi europ. 3848, Balansa 4022, Vanderyst 2086.

No. 210. *Meliola koae* Stevens, Bish. Mus. Bul. 19: 34. 1925.

On Leguminosae: *Acacia*.

Type locality: Oahu, Hawaiian Islands, Stevens 163.

Citations: 264\*, 215\*.

No. 211. *Meliola monensis* Stevens, Ill. Biol. Mono. 2: 38. 1916.

On Rutaceae: *Amyris*.

Type locality: Porto Rico, Mona Island, Stevens 6158.

Citations: 261\*, 230a.

No. 212. *Meliola manihoticola* Hennings, Hedw. 43: 364. 1904.

On Euphorbiaceae: *Manihot*.

Type locality: Manaos, Amazon, Ule 2969.

Citation: 101\*.

Specimens: Ule, Myc. Bras. 60.

No. 213. *Meliola modesta* Sydow, H., Annal. Mycol. 24: 304. 1926.

On Apocynaceae: *Thevetia*.

Type locality: San Pedro de San Ramon, Costa Rica 231.

Specimen: the type.

No. 214. *Meliola groteana* Sydow, H. & P., Annal. Mycol. 11: 402. 1913.

*Meliola maesae* Rehm, Philippine Jour. Sci., C. Bot., 8: 392. 1913.

On Myrsinaceae: *Maesa*.

Type locality: German East Africa. Fig. 35.

Distribution: German East Africa 290; Philippines 200.

Citations: 4, 3, 198.

Specimens: the type, Syd., Fungi exot. exs. 247, type of *M. maesae*.

No. 215. *Meliola bruguierae* Sydow, H., Leaf. Philippine Bot. 9: 3116. 1925.

On Rhizophoraceae: Bruguiera.

Type locality: Sorsogon, Philippines, Irosin 16776.

Specimen: the type.

No. 216. *Meliola amomicola* Stevens, Ill. Biol. Mono. 2: 40. 1916.

On Myrtaceae: Amomis.

Type locality: Porto Rico, Stevens 7054.

Citations: 261\*, 230a.

A typographical error occurs in the text of the original publication regarding the length of the spores; they are really 36—51  $\mu$  long.

No. 217. *Meliola desmodii* Karsten & Roumeguère, Rev. Mycol. 12: 77. 1890.

On Leguminosae: Desmodium (Meibomia) 128, 83, 197, 294, 4, 352, 301, 86, 354, 271, 275, 207, 331a; Bradburya 331a.

Type locality: Tonkin, China, Balansa, Dec. 1887, 5.

Distribution: China 128, 83, 271, 207; Philippines 197, 480; 4, 352, 301, 86, 354, 275; Amboina 271; Santo Domingo, 331a.

Citation: 83\*.

Specimens: Roum., Fungi sel. Gal. Exs. 5420; Phil. Bur. Sci. 23895.

The capitate hyphopodia are given in the original description as alternate. Gaillard gives them as alternate, and figures them as alternate but then says 'most often opposite, rarely alternate'.

The distinction between this and *M. abrupta* seems to rest in the mucronate hyphopodia which in the latter species have very long narrow necks.

No. 218. *Meliola abrupta* Sydow, H. & P., Annal. Mycol. 15: 181. 1917.

*Meliola derridis* Yates, Philippine Jour. Sci., C. Bot., 13: 368. 1918.

On Leguminosae: Derris 301, 354.

Type locality: Luzon, Philippines, Ramos, Bur. Sci. 24068.

Citation: 273.

Specimen: the type. Phil. Bur. Sci. 23904. *M. derridis* 27788.

No. 219. *Meliola pithecolobiicola* Spegazzini, An. Mus. Nac., Buenos Aires, 32: 371. 1924.

On Leguminosae: Pithecolobium.

Type locality: Argentine.

No. 220. *Meliola ludibunda* Spegazzini, An. Soc. Cient., Argentina, 17: 178. 1883.

On Leguminosae: 184, 313, 174. On Aristolochiaceae: Aristolochia 313, Ule 971, 2200. On Rutaceae: Xanthoxylum 251, Pilocarpus 241, 83, 313, 255. On Anacardiaceae: 313, Schinus 313.



Type locality: Guarapi, Paraguay 2720, on unknown host.

Distribution: Paraguay 236, 241, 251; Argentine 255; Brazil 184, 313, 251.

Citations: 263\*, 346, 215.

Specimens: the type. Balansa 4329, 2745, 4022, Rab., Wint. & Pazsch., Fungi europ. 3248, Rick, Fungi aust.-amer. 71.

No. 221. *Meliola laevipoda* Spegazzini, Rev. Argentina Hist. Nat. 1: 77. 1891.

*Meliola membranacea* Starbäck, Bih. till Kongl. Svensk. Vetensk. Akad. Handl. 25: 21.

On Apocynaceae: Aspidosperma.

Type locality: Paraguay, Balansa 3589.

Distribution: Argentine 243, 255, 247; Paraguay 84, 184, 257, 254a.

Citations: 263\*, 255, 257\*.

Specimen: the type.

No. 222. *Meliola incompta* Sydow, H. & P., Annal. Mycol. 18: 98. 1920.

On Phytolaccaceae: Phytolacca.

Type locality: Los Baños, Philippines, Clara, 6696.

No. 223. *Meliola rehmi* n. nov.

*Meliola horrida* Rehm, Philippine Jour. Sci., C. Bot., 8: 393. 1913 (not *Meliola horrida* Ell. & Ev.).

On unknown host; on Myrtaceae.

Type locality: Luzon, Philippines, 976, Baker.

Citation: 4.

Specimen: the type of *M. horrida*.

The colonies are very dense, black, mostly crustose, setae acute to 520  $\mu$  long. The spores are 4-septate.

No. 224. *Meliola champereiae* Sydow, H. & P., Annal. Mycol. 12: 549. 1914.

On Opiliaceae: Champereia; on Santalaceae. 9.

Type locality: Luzon, Philippines, Ramos, Bur. Sci. S. 236. Fig. 36.

Citation: 301.

Specimens: Syd., Fungi Exot. Exs. 369, Phil. Bur. Sci. 23997.

No. 225. *Meliola osmanthi* Sydow, H. & P., Annal. Mycol. 18: 157. 1920.

On Oleaceae: Osmanthus.

Type locality: Japan, Krug 88.

Distribution: Japan 304; Hawaii 264.

Citation: 264\*.

No. 226. *Meliola indica* Sydow & Butler, Annal. Mycol. 9: 382. 1911.

*Meliola barringtoniae* Yates, Philippine Jour. Sci., C. Bot., 12: 363. 1917.

On Lecythidaceae: Barringtonia.

Type locality: India, Butler 1036.

Distribution: India 307; Philippines 352, 354, 275.

Specimen: Phil. Bur. Sci. 29572.

did

No. 227. *Meliola indica* Sydow & Butler var. *careyae* n. var.

On Lecythidaceae: *Careya*.

Type locality: India, Garisoppa Falls, N. Kanara, Oct. 1919. 1985.

This differs from the Philippine type in its longer setae ( $-650\ \mu$ ) and its slightly elongate hyphopodia and crooked mycelium.

Citation: 264a.

No. 228. *Meliola saccardoi* Sydow, H., Annal. Mycol. 20: 68. 1922.

*Meliola cookeana* Spegazzini var. *saccardoi* Sydow, Annal. Mycol. 2: 170. 1904.

*Meliola litseae* Graff, Mem. Torrey Bot. Club 17: 61. 1918.

On Lauraceae: *Litsea*.

Type locality: Chile.

Distribution: Chile 279; Philippines 301, 6, 83, 201, 273.

Specimens: Baker, Fungi Mal. 42, 362, Phil. Bur. Sci. 20994.

No. 229. *Meliola bakeri* Sydow, H. & P., Annal. Mycol. 14: 355. 1916.

On Vitaceae: *Tetrastigma*.

Type locality: Philippines, Baker 3987.

Citation: 301.

Specimens: Baker, Fung. Mal. 249, Phil. Bur. Sci. 24027.

No. 230. *Meliola telosmae* Rehm, Philippine Jour. Sci., C. Bot., 8: 392. 1913.

On Asclepiadaceae: *Telosma*.

Type locality: Luzon, Philippines, Baker 699.

Citations: 4, 301.

Specimens: Baker, Fungi Mal. 256, Phil. Bur. Sci. 23731.

No. 231. *Meliola atro-velutina* Spegazzini, An. Mus. Nac., Buenos Aires, 32: 375. 1924.

On Meliaceae: *Trichilia*.

Type locality: Argentina.

No. 232. *Meliola parvula* Sydow, H. & P., Leaf. Philippine Bot. 6: 1925. 1913.

*Meliola aglaiae* Sydow, H. & P., Philippine Jour. Sci., C. Bot. 9: 159.

1914.

On Meliaceae.

Type locality: Mindanao, Philippines, 13452.

Citation: 6, 297, 5. *A. aglaiae*

Specimens: the type, Phil. Bur. Sci. 8884.

Though the colonies of the types of the two species here united show considerable difference in character, the fact that they occur upon the same host family, and that they are indistinguishable microscopically leads me to regard them as co-specific.

No. 233. *Meliola thouiniaie* Earle, Bul. N. Y. Bot. Gard. 3: 308. 1916.

On Sapindaceae: *Allophylus* 261, *Thouinia* 261, 58. On Canellaceae: *Winterana* 261. On Rhamnaceae: *Krugiodendron* 261.

Type locality: Porto Rico, Heller 6435, on Thouinia.

Citations: 261\*, 230a.

Specimen: the type.

No. 234. *Meliola pachychaeta* Sydow, H., Philippine Jour. Sci., C. Bot., 21: 134. 1922.

On Anacardiaceae: Semecarpus.

Type locality: Amboina, Reliquiae Robinsonianae 2059.

*Meliola pachychaeta* seems to be related to *Meliola aliena* from which it differs especially in the much larger setae.

No. 235. *Meliola didymopanacis* Hennings, Hedw. 34: 106. 1895.

On Araliaceae: Dendropanax 261, 89.

Type locality: Brazil, Glazion 1893.

Specimen: cotype.

Citation: 230a.

No. 236. *Meliola francevilleana* Gaillard, Le Gen. Mel. 88. 1892.

*Meliola densa* Cooke var. *convolvuli* Beeli, Bul. Jard. Bot., Bruxelles, 8: 2. 1923.

On Convolvulaceae: Breweria.

Type locality: Congo, Africa.

Citations: 83\*, 10.

Specimens: the type, the type of *M. densa* var. *convolvuli*.

Study of a portion of the type of this variety and comparison with that of *M. densa* leads me to conclude that it is in no wise related to *M. densa*. The setae are not typically uncinat. The hyphopodia are mainly alternate and I place it as a synonym of *M. francevilleana*.

### Conspectus of Group 8, *Meliola*.

#### S. obtuse

- |   |                                       |          |
|---|---------------------------------------|----------|
| 3112. 3131, s. 100—125 $\mu$ , very few, hc. few,<br>conic, on Leguminosae . . . . .                                    | <i>conigera</i>                       | No. 237. |
| 3112. 3221, s. 170 $\mu$ , hc. ovoid, on Leguminosae  | <i>aethiops</i>                       | No. 238. |
| 3112. 3231, hc. sub-globose, rarely alternate,<br>s. 100—300 $\mu$ , obtuse or truncate, on Legu-<br>minosae . . . . .  | <i>acaciarum</i>                      | No. 239. |
| 3112. 3221, s. 150—250 $\mu$ , hc. ovoid, globose,<br>on Verbenaceae . . . . .  | <i>cookeana</i>                       | No. 240. |
| 3112. 3221, mucronate hyphopodia rare, on Ana-<br>cardiaceae . . . . .  | <i>cookeana</i> f. <i>duvauae</i>     | No. 241. |
| 3112. 3221, s. 150—250 $\mu$ , hc. ovoid, globose, on<br>Sapindaceae . . . . .  | <i>cookeana</i> var. <i>major</i>     | No. 242. |
| 3112. 3231, s. 150—300 $\mu$ , hc. sub-ovoid, globose,<br>on Convolvulaceae . . . . .                                   | <i>malacotricha</i>                   | No. 243. |
| 3112. 4222, s. 360—400 $\mu$ , acute, spore end<br>cells conic, ch. crowded, sub-conic, on Cucur-<br>bitaceae . . . . . | <i>malacotricha</i> var. <i>major</i> | No. 244. |

3112. 3221, s. 185—230  $\mu$ , hc. conic, on Leguminosae . . . . . *conica* No. 245.
3112. 3221, s. 230—280  $\mu$ , clustered around the perithecium, hc. conic, on Sapindaceae . . . *mataybae* No. 246.
3112. 3223, s. 435—850  $\mu$ , hc. ovoid to conic, crowded, on Polygonaceae . . . . . *angusta* No. 247.
3112. 5233, s. 360—600  $\mu$ , hc. ovate, cylindric, on Oleaceae . . . . . *gemellipoda* No. 248.
3112. 3212, s. 290—308  $\mu$ , hc. cylindric, on Styracaceae . . . . . *styracearum* No. 249.
3112. 3241, s. 200—300  $\mu$ , hc. cylindric-clavate, on Rhamnaceae . . . . . *scutiae* No. 250.
3112. 4233, s. 500—600  $\mu$ , hc. oblong, on Rutaceae . . . *peleae* No. 251.
3112. 4233, s. 450—650  $\mu$ , hc. ovate, on Myrsinaceae . . . *transvaalensis* No. 251a.
3112. 5323, s. 350—700  $\mu$ , hc. ovate, on Ebenaceae . . . *diospyri* No. 252.
- S. acute
3112. 5333, s. 500—625  $\mu$ , acute, hc. turbinate, rarely alternate, on Lauraceae . . . . . *praetervisa* No. 253.
3112. 3222, s. 300—400  $\mu$ , hc. sub-globose, rarely alternate, on Meliaceae . . . . . *opposita* No. 254.
3112. 3221, s. 170—220  $\mu$ , hc. sub-globose, mostly opposite, on Euphorbiaceae . . . . . *brachypoda* No. 255.
3112. 4233, s. 250—600  $\mu$ , hc. globose, ovoid, on Monimiaceae . . . . . *rigida* No. 256.
3112. 3222, s. 300—500  $\mu$ , hc. ovoid-sub-globose, on Rubiaceae . . . . . *sandwicensis* No. 257.
3112. 5332, s. 300—350  $\mu$ , hc. sub-ovoid, on Rutaceae . . . . . *toddaliae* No. 258.
3112. 6342, s. 350  $\mu$ , acute, hc. sub-clavate, on unknown host . . . . . *leopoldina* No. 259.
3112. 3221, s. 200—250  $\mu$ , acute, hc. ovate-cylindrical, on Leguminosae . . . . . *andirae* No. 260.
3112. 3221, s. 200—250  $\mu$ , acute, hc. ovate-cylindrical, on Leguminosae . . . *andirae* var. *puttemansii* No. 261.
3112. 5232, s. 350  $\mu$ , acute, hc. cylindric, on unknown host . . . . . *leptopus* No. 262.
3112. 4234, s. 500—1500  $\mu$ , hc. clavate, on unknown host . . . . . *acamptinga* No. 263.
3112. 3223, s. 600—900  $\mu$ , hc. cylindrical, on Euphorbiaceae . . . . . *luzonensis* No. 264.
3112. 3221, s. 180—250  $\mu$ , acute, hc. cylindrical, on Anacardiaceae . . . . . *nicaraguensis* No. 265.
3112. 4224, s. 460—1100  $\mu$ , acute, hc. cylindrical or irregular, on Myrtaceae . . . . . *eugeniicola* No. 266.



3112. 3221, s. 200—240  $\mu$ , hc. cylindrical, on  
 Saxifragaceae . . . . . *cylindrophora* No. 267.  
 3112. 42-3, s. —800  $\mu$ , acute, hc. sub-globose  
 to cylindric, on Leguminosae . . . . . *inocarpi* No. 268.  
 3112. 5321, s. 600—750  $\mu$ , hc. lobed or globose,  
 on Elaeocarpaceae . . . . . *elaecarpeae* No. 269.  
 3112. 4222, s. 250—500  $\mu$ , hc. crowded, sub-  
 crustose, on Celastraceae . . . . . *falcatiseta* No. 270.

S. tips unrecorded

3112. 3231, s. 50—150  $\mu$ , hc. pyriform, on  
 Rosaceae . . . . . *glabriuscula* No. 271.  
 3112. 1---, hc. ovate, on unknown host . . . *formosa* No. 272.

No. 237. *Meliola conigera* Stevens & Tehon, Mycol. 18: 9. 1926.

On Leguminosae: Pentaclethra.

Type locality: British Guiana, Stevens 387a.

Citation: 266\*.

No. 238. *Meliola aethiops* Saccardo, Bul. Orto Bot. R. Univ. Napoli  
 6: 41. 1921.

On Leguminosae: Cassia.

Type locality: Singapore.

Specimen: Baker, Fungi Mal. 449.

No. 239. *Meliola acaciarium* Spegazzini, An. Soc. Cient. Argentina 93:  
 no. 4. 1922.

On Leguminosae: Acacia.

Type locality: Brazil.

No. 240. *Meliola cookeana* Spegazzini, An. Soc. Cient. Argentina 12: 41,  
 no. 116. 1881.

On Scrophulariaceae: 348. On Convolvulaceae: Ipomoea 101. On  
 Solanaceae: Solanum 119. On Verbenaceae: Callicarpa 235, 134, 83, 64,  
 313, 197, 254, Lantana 9, 4, 5. On Lauraceae: (Goeppertia) Cryptocarya  
 313. On Leguminosae: Bradburia 119.

Type locality: Florida, U. S. A., on Callicarpa.

Distribution: Argentine 235, 254; So. U. S. A. 134, 83, 64, 313; St. Thomas,  
 Africa 348; Brazil 166; Peru 101; Philippines 197.

Citation: 83\*.

Specimens: Rav., Fungi Amer. 84. Heller 6402.

Spegazzini (254) believes this identical with *Meliola callicarpae* from  
 which descriptions show differences only in position of hyphopodia and  
 length of setae. Gaillard figures the capitate hyphopodia as alternate.  
 Spegazzini says that *M. cookeana* = *M. callicarpae* = *M. vilis*.

No. 241. *Meliola cookeana* Spegazzini forma *duvauae* Saccardo & Sydow,  
 Annal. Mycol. 2: 170. 1904.

On Anacardiaceae: Duvaua.

Type locality: Chile, Neger.

No. 242. *Meliola cookeana* Spegazzini var. *major* Gaillard, Le Gen. Mel. 74. 1892.

On Sapindaceae: *Dodonaea*.

Type locality: San Francisco, Brazil, Ule.

Citation: 166.

Specimen: the type.

No. 243. *Meliola malacotricha* Spegazzini, An. Soc. Cient. Argentina 26: no. 59. 1888.

*Meliola ipomoeae* Earle, Muhl., 1: 10. 1901.

*Meliola merremiae* Rehm, Philippine Jour. Sci., C. Bot. 8: 253. 1913.

*Meliola hewittiae* Rehm, Philippine Jour. Sci., C. Bot. 8: 253. 1913.

Given as *M. hervittiae* in the Sylloge Fungorum, Vol. 24, p. 281.

*Meliola ipomoeae* Rehm, Annal. Mycol. 12: 171. 1914.

On Solanaceae: *Solanum* 184, 313. On Convolvulaceae: *Dichondra* 184, 241, 207, 251, 255, 83, 313, *Merremia* 197, 271, *Ipomoea* 261, 29, 2, 57, *Hewittia* 197, 4, 353, 301, 275. On Anacardiaceae: *Schinus* 83, 166, 184, 203, 187, 313, 174, *Lithraea* 313. On Leguminosae: *Berlinia* 313, 184, 83, *Indigofera* 48, *Zollernia* 184, *Baphia* 48, *Collaea* 313, 206, *Lonchocarpus* 184. On Anonaceae: *Guatteria* 184, 313. On Compositae: *Mikania* 184, 313. On Euphorbiaceae: *Croton* 184, 313. On Meliaceae: *Trichilia* 313. On Cucurbitaceae: 9.

Type locality: Paraguay, on *Dichondra*.

Distribution: Paraguay 241, 83, 313, 207; Africa 83, 313, 48; Brazil 83, 166, 184, 313, 174; Philippines 197, 4, 301, 352, 275, 271; Argentine 255; Porto Rico 261, 29, 2, 57, Costa Rica 251.

Citations: 83\*, 48\*, 201, 215, 230a.

Specimens: Rab., Wint. & Pazsch., Fungi europ. 3850, 3248 sub. *M. ludibunda*. The type of *M. merremiae*. Phil. Bur. Sci. 21789, 24034. Baker Fungi Mal. 44, 253. Sydow, Fungi Exot. 372, Heller 6258, Co-type of *M. ipomoeae* Rehm, Roum., Fungi sel. Gal. Exs. 5343, Union So. Afr. 9703.

This species is given in Gaillard's text as with hyphopodia opposite. though his figure shows them alternate. Doidge gives them as both opposite and alternate.

The original publication of the name *Meliola ipomoeae* Rehm was without description with the statement that the description 'erscheint in Philipp. Journ. Sc.' which it did not do. Moreover, the name was preempted by *Meliola ipomoeae* Earle and it was later announced that the host was probably *Merremia* not *Ipomoea*.

New records: On Convolvulaceae: *Ipomoea*, Costa Rica, Peralta, July 13, 1923, 442, 447; Panama, Gatuncillo, Aug. 18, 1923, 1158, Corozal, Trail 17, Aug. 30, 1924, 84, 101, 107, 135, Las Cruces trail, Sept. 2, 1924, 167, Culebra, Oct. 2, 1924, 936, France Field, Oct. 3, 1924, 964, 978, Mandingo, Oct. 15, 1924, 1320; British Guiana, Tumatumari, July 12, 1922, 228, Kartabo, July 23, 1922, 617.

The frequent association of this species, on the same leaf, with *M. clavulata*, as was found also in Porto Rico is noteworthy.

No. 244. *Meliola malacotricha* Spegazzini var. **major** Beeli, Bul. Jard. Bot., Bruxelles 7: 96. 1920.

On Cucurbitaceae.

Type locality: Congo, Africa, Vanderyst 2064.

Specimen: the type.

This variety differs from the type in that its spores are larger,  $44 \approx 16 \mu$ , the mycelial setae longer, 350—400  $\mu$ , and the capitate hyphopodia very irregular.

No. 245. *Meliola conica* n. sp.

Colonies hypophyllous, small, 2—3 mm, circular, black. Mycelium nearly straight, 6  $\mu$  thick, branching opposite at nearly right angles. Capitate hyphopodia strictly opposite, conic, close, about 18—20  $\mu$  apart, often bent. Stalk cell very short, 2  $\mu$ ; head cell  $11 \approx 4 \mu$ . Mucronate hyphopodia ampulliform, few.

Perithecial setae none. Mycelial setae few, black, rigid, simple, obtuse, 185—230  $\mu$ , 6  $\mu$  thick. Perithecia globose, smooth, 107—155  $\mu$ , on a radiate subicle. Asci evanescent. Spores 4-septate, 30—33  $\approx 18 \mu$ .

Group number 3112. 3221. Fig. 37.

On Leguminosae (Mimosaceae): Costa Rica, Sabario, Aug. 8, 1923, 787, 795. Las Mercedes, July 17, 1923, 493, Parismina Junction, July 20, 1923, 607.

The conic, strictly opposite, capitate hyphopodia are very characteristic. The perithecia when young are very flat, radiate and of Microthyriaceous appearance, later they become globose. The setae are so rare that if only a few preparations are made they might be missed.

No. 246. *Meliola mataybae* n. sp.

Colony minute, black, epiphyllous. Mycelium straight, branches at right angles. Capitate hyphopodia opposite, conic, slightly antrorse, very close, 7—11  $\mu$ . Stalk cell short, 3—4  $\mu$ ; head cell conic,  $11 \approx 7 \mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae clustered around the perithecium, absent elsewhere, simple, obtuse, 230—280  $\mu$ . Perithecia globose, smooth, 155—200  $\mu$ , borne on an alveolar disk. Asci evanescent. Spores 4-septate, 36—39  $\approx 15 \mu$ .

Group number 3112. 3221. Fig. 38.

On Sapindaceae: Matayba scrobiculata. Costa Rica, El Alto, July 26, 1923, 245.

This is a very distinct species as is shown by the few setae and the mycelial characters.

No. 247. *Meliola angusta* Stevens & Tehon, Mycol. 18: 6. 1925.

On Polygonaceae: Coccoloba.

Type locality: British Guiana, Stevens 558.

No. 248. *Meliola gemellipoda* Doidge, Bothalia 1: 81. 1924.

On Oleaceae: Jasminum.

Type locality: Cape Province, Africa, Doidge 12352.

No. 249. *Meliola styracearum* n. sp.

Colony epiphyllous, indefinite, 3—10 mm. Mycelium translucent, branching opposite, often at acute angle, sometimes at right angle. Capitate hyphopodia opposite, inclined slightly forward. Stalk cell short, 3—4  $\mu$ ; head cell cylindrical, obtuse, very regular, pale to almost hyaline. Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae very few, simple, 290—308  $\mu$ , 7—8  $\mu$  thick at base, apex obtuse. Perithecia globose, smooth, 90  $\mu$ , on a radiate disk. Asci evanescent. Spores 4-septate, 36  $\approx$  14  $\mu$ .

Group number 3112. 3212. Fig. 39.

On Styracaceae: *Styrax argenteus*. Costa Rica, Cartago, June 23, 1923, 105 (type), 73.

The setae are very scant, often only one or two on a large colony. The pale hyphopodia are quite unique.

No. 250. *Meliola scutiae* Spegazzini, An. Mus. Nac., Buenos Aires, 23: no. 1342. 1912.

On Rhamnaceae: *Scutia*.

Type locality: Argentine.

Citation: 255.

No. 251. *Meliola peleae* Stevens, Bish. Mus. Bul. 19: 34. 1925.

On Rutaceae: *Pelea*. On Lauraceae: *Cryptocarya*.

Type locality: Hawaii, Stevens 840.

Citation: 264\*.

No. 251a. *Meliola transvaalensis* Doidge, Both. 11: 239. 1927.

On Myrsinaceae: *Myrsine*.

Type locality: So. Africa.

No. 252. *Meliola diospyri* Sydow, H. & P., in Sydow & Butler Annal. Mycol. 9: 381. 1911.

*Meliola diospyriae* Yates, Philippine Jour. Sci. 12: 364. 1917.

*Meliola yatesiana* Trotter, Syll. Fung. 24: 284. 1926.

On Ebenaceae: *Diospyros*.

Type locality: Mysore, India, Butler 1044.

Distribution: India 307; Philippines 352.

Specimen: the type.

No. 253. *Meliola praetervisa* Gaillard, Le Gen. Mel. 78. 1892.

On Lauraceae 83, 313. On Polygonaceae: *Coccoloba* 261. On Sapindaceae: *Cupania* 261, 313.

Type locality: Java on Lauraceae.

Distribution: Java 83, 313; Porto Rico 261; Brazil 313; Santo Domingo 331a.

Citations: 83\*, 261\*, 230a.

New record: On *Coccoloba* sp. British Guiana, Kartabo, July 23, 1922. 597a.



No. 254. *Meliola opposita* Sydow, H. & P., Leaf. Philippine Bot. 6: 1924. 1913.

*Meliola amoorae* Yates, Philippine Jour. Sc., C. Bot., 13: 364. 1918.

*Meliola trichiliae* Beeli, Bul. Jard. Bot., Bruxelles, 7: 99. 1920.

On Meliaceae: 292, Amoor 354, Trichilia 9.

Type locality: Mindanao, Philippines 13659.

Distribution: Philippines 4, 292, 354; Congo, Africa 9.

Citation: 4.

Specimens: the type, the type of *M. amoorae*, the type of *M. trichiliae*.

The three species here united, from examination of the types, are very closely alike: *M. trichiliae* has a mycelium that is slightly crooked, while *M. opposita* has slightly irregular hyphopodia. These slight differences do not warrant considering them as separate species.

No. 255. *Meliola brachypoda* Sydow, H. & P., Annal. Mycol. 20: 67. 1922.

*Meliola macarangae* Yates, Philippine Jour. Sci. 12: 367. 1917 (not *M. macarangae* Syd.).

On Euphorbiaceae: Macaranga.

Type locality: Luzon, Philippines, Bur. Sci. 25621 Yates.

Specimen: the type.

No. 256. *Meliola rigida* Doidge, Trans. Roy. Soc. So. Africa 5: 736. 1917.

On Monimiaceae: Xymalos.

Type locality: Natal, South Africa, Doidge 1775.

Citations: 45\*, 51, 18b.

Specimens: the type, Union So. Africa 8894.

No. 257. *Meliola sandwicensis* Ellis & Everhart, Bul. Torrey Bot. Club 22: 434. 1895.

On Rubiaceae: 65, 264, Kadua 264.

Type locality: Hawaii, Heller 2369.

No. 258. *Meliola toddaliae* Doidge, Trans. Roy. Soc. So. Africa 5: 732. 1917.

On Rutaceae: Toddalia, Fagara.

Type locality: Natal, South Africa, 8788 Pegler.

Citations: 51, 56, 45\*.

Specimens: the type, Union So. Africa 8999, 8788.

No. 259. *Meliola leopoldina* Theissen, Brot. 12: 25. 1914.

On unknown host.

Type locality: Brazil.

No. 260. *Meliola andirae* Earle, Bul. N. Y. Bot., Gard., 3: 303. 1905.

On Leguminosae: Andira.

Type locality: Porto Rico, Heller 6448.

Distribution: Porto Rico, 58, 261, 29.

Citations: 261\*, 230a.

Specimen: the type.

New records: On Andira inermis. Panama, Las Cruces trail, Sept. 2, 1924, 149, Patilla Pt., Sept. 8, 1924, 359, Brazos Brook Reservoir, Sept.

22, 1924, 745, Ft. Randolph, 100 feet hill trail, Sept. 19, 1924, 868, Tumba Muerta, Oct. 12, 1924, 1230. On *Andira* sp. Panama, Fort Davis, Mt. Hope, Old Road, Sept. 25, 1924, 816.

No. 261. *Meliola andirae* Earle var. *puttemansii* Arn., Thesis, 229. 1918. *Dimerosporium meliolicola* Hennings, Hedw. 42: 107. 1903.

On Leguminosae: *Andira*.

Citation: 2\*.

Type locality: Brazil.

No. 262. *Meliola leptopus* Theißen, Brot. 12: 23. 1914.

On unknown host.

Type locality: Brazil.

No. 263. *Meliola acamptinga* Spegazzini, Rev. Mus. La Plata 15: 15. 1908.

On unknown host.

Type locality: Brazil.

No. 264. *Meliola luzonensis* Sydow, H. & P., Annal. Mycol. 15: 188. 1917.

On Euphorbiaceae: *Antidesma*.

Type locality: Luzon, Philippines, Bur. Sci. 23976 Ramos.

Specimen: the type.

No. 265. *Meliola nicaraguensis* Spegazzini, Bol. Acad. Nac. Cient., Cordoba, 26: 378. 1923.

On Anacardiaceae: *Spondias*.

Type locality: Nicaragua, Wright herbarium.

Reported as *Meliola musae* in the Wright collection.

No. 266. *Meliola eugenicola* n. sp.

Colonies amphigenous, thin, circular, 1—5 mm. in diameter. Mycelium straight, thick, 7  $\mu$ , dark, branching often nearly at right angles. Spot none. Capitate hyphopodia opposite, antrorse, close, 18  $\mu$ . Stalk cell short, 3—4  $\mu$ ; head cell cylindrical or slightly irregular, 14—15  $\mu$   $\approx$  7—8  $\mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae long, 460—1100  $\mu$ , simple, acute, straight or gracefully flexuose. Perithecia dimidiate when young, globose when mature, smooth, 140  $\mu$  in diameter, from alveolar disks. Asci evanescent. Spores 4-septate, 43  $\mu$   $\approx$  18  $\mu$ .

Group number 3112. 4224.

On Myrtaceae: *Eugenia eucalyptoides*. India, Pachanada, Mangalore, April 16, 1913. 1989.

Citation: 264a\*.

Though some twenty-five species of the Meliolinae have been described on the Myrtaceae this shows superficial resemblance with only two, viz. *M. amomicola* from which it differs markedly in colony and mycelial characters and in the fact that the hyphopodia are strictly opposite; and *M. horrida* Rehm (not Ell. & Ev.) from which it differs in its setae and colony.

In a general key it would fall with these *Meliolas* of formula 3112. with acute setae. From all of these it differs materially in length of setae.

No. 267. *Meliola cylindrophora* Rehm, Philippine Jour. Sci., C. Bot. 8: 181. 1913.

On Saxifragaceae: *Itea* 196, 294, 5, 4, 275. On Leguminosae: *Caesalpinia* 4, 288. On Verbenaceae: *Premna* 199, 202, 6. On Borraginaceae: *Ehretia* 199, 202. On Sapindaceae: *Guioa* 301, *Nephelium* 9.

Type locality: Luzon, Philippines, Baker 394, on Saxifragaceae.

Citations: 197, 199, 301\*.

Specimens: Baker, Fungi Mal. 43, Sydow, Fungi Exot. Exs. 172, Phil. Bur. Sci. 8437.

No. 268. *Meliola inocarpi* n. sp.

Colonies amphigenous, 2–8 mm, irregular. Mycelium straight, branching rectangular. Capitate hyphopodia opposite, close but not crowded. Stalk cell short, 3–4  $\mu$ ; head cell sub-globose to cylindrical. Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae few, acute, straight, —800  $\mu$ . Perithecia globose, from alveolar disks. Asci evanescent. Spores 43–46  $\mu$   $\approx$  21  $\mu$ .

Group number 3112. 42–3. Fig. 40.

On Leguminosae: *Inocarpus*. Singapore, Straights Settlements. Baker Fungi Mal. 459.

The most distinctive characters are the rectilinear mycelium, rectangular branching and coarse, long setae.

No. 269. *Meliola elaeocarpeae* Yates, Philippine Jour. Sci., C. Bot., 12: 365. 1917.

On Elaeocarpaceae: *Elaeocarpus*.

Type locality: Luzon, Philippines, Bur. Sci. 25175 Yates.

Specimen: the type.

No. 270. *Meliola falcatiseta* Spegazzini, An. Mus. Nac., Buenos Aires 19: 327, no. 479. 1909.

On Celastraceae: *Mystroxydon* 9. On Anacardiaceae: *Lithraea* 9. On Simarubaceae: *Castela* 255.

Type locality: Argentine.

No. 271. *Meliola glabriuscula* Spegazzini, Rev. Mus. La Plata 15: 15. 1908.

On Rosaceae: *Photinia* (?).

Type locality: Sao Paulo, Brazil.

Citation: 263\*.

Specimen: the type.

No. 272. *Meliola formosa* Welwitsch & Currey, Trans. Linn. Soc., London, Ser. 1, 26: 284. 1870.

On unknown host.

Type locality: Angola, East Africa 40.

Citation: 343\*.

## Conspectus of Group 9, Meliola.

## Setae slightly swollen

3111. 2121, s. 150—185  $\mu$ , slightly swollen,  
colonies 1—10 mm., hc. globose, 7—9  $\mu$ ,  
on Gentianaceae . . . . . *lisianthi* No. 273.
3111. 3221, colonies 2—5 mm., s. 185—  
215  $\mu$ , slightly swollen, hc. globose, on  
Anonaceae . . . . . *anonae* No. 274.
3111. 2121, colonies 2—4 mm., mycelium  
straight, s. 170—180  $\mu$ , slightly swollen,  
hc. sub-globose to ovate, on Bignoniaceae *crescentiae* No. 275.

## Setae distinctly swollen

3111. 3221, colonies 1—3 mm., s. 150—  
250  $\mu$ , clavate, hc. ovate-globose, on  
Convolvulaceae . . . . . *clavulata* No. 276.
3111. 3222, colonies 1—2 mm., s. 280—  
305  $\mu$ , hc. globose, on Convolvulaceae . *clavulata* var. *batatae* No. 277.
3111. 4221, colonies 2—5 mm., s. 130—  
180  $\mu$ , thick at tip, hc. irregularly lobed,  
on Gramineae . . . . . *hercules* No. 278.

## Setae hispid at tip

3111. 6223, colonies 1—3 mm., s. 600—  
700  $\mu$ , hc. clavate, oblong or lobed, on  
Marantaceae . . . . . *hispida* No. 279.

## Hc. conic

3111. 5341, colonies 3—10 mm., s. 100—  
200  $\mu$ , hc. conic, on Styracaceae . . *styracicola* No. 280.

## Setae and hc. not as above

## Hc. regular

3111. 5333, colonies 3—5 mm., s. 600—  
1000  $\mu$ , hc. globose, on Melastomataceae *memecyli* No. 281.
3111. 4233, colonies 2—4 mm., s. 500—  
600  $\mu$ , hc. globose, on unknown host . *samarensis* No. 282.
3111. 3222, s. 300—500  $\mu$ , hc. globose,  
on Anonaceae . . . . . *popowiae* No. 283.
3111. 3222, colony loose, mycelium crooked,  
s. 196—390  $\mu$ , hc. globose, on Legu-  
minosae . . . . . *meibomiaae* No. 284.
3111. 3221, colonies 1—3 mm., loose,  
mycelium straight, s. 200—250  $\mu$ , hc.  
globose-ovate, on Leguminosae . . . *pithecolobii* No. 285.
3111. 3222, colonies 2—4 mm., s. 250—  
375  $\mu$ , hc. globose, on Goodeniaceae . *scaevolae* No. 286.



3111. 3221, colonies 5 mm., s. 200—250  $\mu$ ,  
 hc. globose, parasitic, on Bignoniaceae *gnathonella* No. 287.
3111. 3221, colonies 3—10 mm., s. 90—  
 125  $\mu$ , hc. sub-globose, on Bignoniaceae *shropshiriana* No. 288.
3111. 2231, colonies 1 mm., mycelium  
 pale, crooked, s. 180—230  $\mu$ , ch. alter-  
 nate, at the angles, hc. globose, on  
 Convolvulaceae . . . . . *caymanensis* No. 289.
3111. 5221, s. 200—250  $\mu$ , hc. globose to  
 sub-globose, on Santalaceae . . . . *exocarpiæ* No. 290.
3111. 53—, s. 215—390  $\mu$ , hc. globose,  
 on Santalaceae . . . . . *polytricha* var. *abyssinica* No. 291.
3111. 2121, colonies 1—2 mm., s. 220—  
 270  $\mu$ , hc. subglobose, on Labiatae . *microspora* No. 292.
3111. 3221, colonies 1—3 mm., s. 120—  
 200  $\mu$ , hc. sub-globose, on Euphorbia-  
 ceae . . . . . *ramosii* No. 293.
3111. 3221 on Euphorbiaceae . . . . *longispora* No. 294.
3111. 3221, s. 150—280  $\mu$ , hc. sub-globose,  
 on Rutaceae . . . . . *monnieræ* No. 295.
3111. 4333, s. 350—600  $\mu$ , hc. cylindric-  
 clavate, on Rutaceae . . . . . *macropoda* No. 296.
3111. 2221, s. 150—200  $\mu$ , hc. ovate, on  
 Apocynaceae . . . . . *simillima* No. 297.
3111. 3222, colonies 1—3 mm., mycelium  
 crooked, s. 230—400  $\mu$ , hc. ovate to  
 globose, close, on Apocynaceae . . . *mandevillæ* No. 298.
3111. 3221, colonies 1—4 mm., s. 185—  
 215  $\mu$ , hc. sub-globose, ovate, truncate,  
 mycelium anastomosing, on Anonaceae *anonacearum* No. 299.
3111. 3222, colonies 5—10 mm., mycelium  
 crooked, s. 320—350  $\mu$ , hc. oblong-ovate,  
 sub-globose, on Myrtaceae . . . . . *olecranonis* No. 300.
3111. 3121, colonies 1—5 mm., strongly  
 parasitic, mycelium not very crooked,  
 s. 200  $\mu$ , hc. sub-globose, elliptical, on  
 Rubiaceae . . . . . *ouroupariæ* No. 301.
3111. 3221, colonies 1—3 mm., s. 250—  
 300  $\mu$ , hc. elliptical, on Rubiaceae . . *psychotriæ* No. 302.
3111. 4121, mycelium very loose, s. 150  
 —230  $\mu$ , hc. ovate, on Rubiaceae . . *eveæ* No. 303.
3111. 5224, colonies large, s. 700—1110  $\mu$ ,  
 hc. ovate, oblong, on Rubiaceae . . *malanææ* No. 304.

3111. 4222, colonies 2—4 mm., arachnoid, dense, s. 400—500  $\mu$ , hc. oblong, on Rubiaceae . . . . . *vicina* No. 305.
3111. 2111, colonies 1—3 mm., s. 275  $\mu$ , perithecium 90—110  $\mu$ , hc. globose, on Rubiaceae . . . . . *amphigena* No. 306.
3111. 2121, colonies 2—5 mm., thin, s. 180—215  $\mu$ , hc. sub-globose to elliptical, on Gesneriaceae . . . . . *columnneae* No. 307.
3111. 4223, colonies small, mycelium crooked, s. 400—700  $\mu$ , hc. globose, ovate, on Malpighiaceae . . . . . *byrsonimicola* No. 308.
3111. 2223, colonies 1—2 mm., arachnoid, s. 300—600  $\mu$ , hc. globose, ovate, on Cornaceae . . . . . *alangii* No. 309.
3111. 6332, colonies 2—5 mm., s. —400  $\mu$ , hc. globose, ovate, 15—20  $\mu$ , on Magnoliaceae . . . . . *corallina* No. 310.
3111. 6332, spores shorter than type, 60—64  $\mu$   $\geq$  20—28  $\mu$ , s. longer 500—600  $\mu$ , on Magnoliaceae . . . . . *corallina* var. *javanica* No. 311.
3111. 3221, s. 180—240  $\mu$ , hc. clavate, spores —33  $\mu$ , on Verbenaceae . . . . . *clerodendricola* No. 312.
3111. 2221, s. 150—200  $\mu$ , hc. ovate-sub-globose, spores —28  $\mu$ , on Verbenaceae . . . . . *micromera* No. 313.
3111. 3221, s. —250  $\mu$ , few, hc. ovate, spores —40  $\mu$ , on Verbenaceae . . . . . *sakawensis* No. 314.
3111. 3221, colonies large, s. 170—300  $\mu$ , hc. globose to ovate, on Polygonaceae . . . . . *coccolobis* No. 315.
3111. 3211, colonies 3—10 mm., s. 180—280  $\mu$ , hc. globose to ovate, on Solanaceae . . . . . *kartaboensis* No. 316.
3111. 3211, colonies 5—10 mm., s. 250  $\mu$ , hc. globose to ovate, on Loranthaceae . . . . . *catubigensis* No. 317.
3111. 4221, s. 150—200  $\mu$ , hc. globose, ovate, on Flacourtiaceae . . . . . *banarae* No. 318.
3111. 3221, colonies large, s. 100—175  $\mu$ , hc. globose, ovate, on Verbenaceae . . . . . *rizalensis* No. 319.
3111. 3211, on Vitaceae . . . . . *rizalensis* var. *panamensis* No. 320.
3111. 6332, spore ends acute, s. 300—500  $\mu$ , hc. ovoid, on Compositae . . . . . *spgazziniana* No. 321.
3111. 5331, colonies 2—3 mm., s. 200—300  $\mu$ , hc. ovate, not crowded, on Myrtaceae . . . . . *eugeniae* No. 322.

3111. 3221, colonies 1—5 mm., s. —250  $\mu$ ,  
 hc. oblong-ovate, not crowded, on Olea-  
 ceae . . . . . *mayepeae* No. 323.
3111. 3221, colonies 1 cm., s. 180—200  $\mu$ ,  
 not hispid, hc. ovate, on Marantaceae *marantae* No. 324.
3111. 2221, s. 150—180  $\mu$ , hc. ovate, on  
 Verbenaceae . . . . . *paraensis* No. 325.
3111. 4242, colonies 1—3 mm., hc. ovate,  
 on Convolvulaceae . . . . . *ambigua* var. *major* No. 326.
3111. 4221, colonies 2—3 mm., s. 200—300  $\mu$ ,  
 hc. ovate or truncate, on Loganiaceae . *strychnicola* No. 327.
3111. 3221, colonies 2—4 mm., s. 300  $\mu$ , hc.  
 ovate to cylindrical, on Euphorbiaceae . *gymnanthicola* No. 328.
3111. 3211, colonies minute, s. 200—250  $\mu$ ,  
 spores clavate, hc. globose, on Euphor-  
 biaceae . . . . . *gymnanthicola* var. *manihot* No. 329.
3111. 5333, colonies 4 mm., s. 500—700  $\mu$ ,  
 hc. elongate, on Meliaceae . . . . . *platysperma* No. 330.
3111. 4222, colonies tenuous, spore end  
 cells small, s. 200—400  $\mu$ , very crooked,  
 clustered at base of perithecium, hc.  
 oblong to ovate, on Meliaceae . . . . . *obvallata* No. 331.
3111. 4222, s. 250—340  $\mu$ , not as in *M.*  
*obvallata*, spore cells equal, hc. oblong,  
 on Meliaceae . . . . . *leptochaeta* No. 332.
3111. 4221, colonies 2—4 mm., s. 250—  
 300  $\mu$ , hc. ovate to ovate-oblong, on  
 Araliaceae . . . . . *irosinensis* No. 333.
3111. 3221, colonies 1—6 mm., s. 90  $\mu$ ,  
 only near base of perithecium, hc. ovate-  
 pyriform, on Schizaeaceae . . . . . *pteridicola* No. 334.
3111. 6334, colonies 1—2 cm., amphige-  
 nous, mycelium straight, s. 1400  $\mu$ , hc.  
 clavate, on Lauraceae . . . . . *magna* No. 335.
3111. 3232, colonies 1—5 mm., s. 250—  
 400  $\mu$ , hc. clavate, on Anacardiaceae . *lanigera* No. 336.
3111. 4233, colonies 2—3 mm., s. 400—  
 650  $\mu$ , on Anacardiaceae . . . . . *chilensis* No. 336a.
3111. 4223, colonies  $\frac{1}{4}$ —2 cm., s. 300—  
 600  $\mu$ , hc. oblong, stipe long, on Anacar-  
 diaceae . . . . . *semecarpi* No. 337.
3111. 4232, colonies 2—8 mm., perithecia  
 large, s. 100—400  $\mu$ , hc. clavate, on  
 Euphorbiaceae . . . . . *colliguajae* No. 338.

3111. 4231, colonies 1—3 mm., s. 200—  
300  $\mu$ , hc. clavate, on Leguminosae . . . *gleditschiae* No. 339.
3111. 3221, s. 180—200  $\mu$ , disk 75  $\mu$ , hc.  
clavate, on Leguminosae . . . . . *holocalicis* No. 340.
3111. 4222, colonies 2—3 mm., s. 300—  
500  $\mu$ , perithecium very rough, hc.  
pyriform, on Leguminosae . . . . . *erythrinae* No. 341.
3111. 4221, s. 200—300  $\mu$ , hc. clavate,  
antrorse, distant, on Apocynaceae . . . *tabernaemontanae* No. 342.
3111. 4221, on Apocynaceae . *tabernaemontanae* var. *forsteroniae* No. 343.
3111. 3221, s. 200—250  $\mu$ , hc. ovate or  
elliptic, on Apocynaceae . . . . . *euopla* No. 344.
3111. 3211, s. 150—250  $\mu$ , hc. clavate, on  
Sapindaceae . . . . . *integrisseta* No. 345.
3111. 3221, colonies 5—15 mm., disc  
present, s. 240—300  $\mu$ , hc. sub-globose,  
ovate, on Sapindaceae . . . . . *integrisseta* var. *stevensii* No. 346.
3111. 3221, s. 200—300  $\mu$ , few, hc. ovate,  
oblong-ovate, on Sapindaceae . *integrisseta* var. *lepisanthea* No. 347.
3111. 3242, colonies 1—3 mm., s. 300  $\mu$ ,  
not septate, hc. pyriform, on Labiatae *ambigua* No. 348.
3111. 3221, colonies 1—2 mm., s. 150  $\mu$ ,  
hc. pyriform, crowded, on Oleaceae . . *mayapeicola* No. 349.
3111. 4321, colonies 4—8 mm., s. 75—  
100  $\mu$ , from disk, hc. pyriform, on  
Aquifoliaceae . . . . . *yerbae* No. 350.
3111. 3211, colonies 3—5 mm., s. 100—  
130  $\mu$ , only on the disk, hc. pyriform,  
on Leguminosae . . . . . *calopogonii* No. 351.
3111. 5233, colonies 1—3 mm., s. 650—  
850  $\mu$ , hc. cylindrical, globose, 16—20  $\mu$ ,  
on Solanaceae . . . . . *cestri* No. 352.
3111. 2221, colonies 2—8 mm., s. 100—  
175  $\mu$ , hc. oval, on Bignoniaceae . . . *peruviana* No. 353.
3111. 2111, more numerous setae and  
irregular mycelium, on Bignoniaceae  
*peruviana* var. *irregularis* No. 354.
3111. 6333, colonies amphigenous, 3—  
6 mm., s. 600—800  $\mu$ , hc. oblong, on  
Ebenaceae . . . . . *megalocarpa* No. 355.
3111. 4223, colonies 2—10 mm., s. 200—  
800  $\mu$ , hc. cylindrical, on Sapotaceae . *lucumae* No. 356.
3111. 2221, s. 170—230  $\mu$ , hc. cylindric,  
on Flacourtiaceae . . . . . *xylosmae* No. 357.



3111. 5223, colonies 1—10 mm., s. —625  $\mu$ ,  
few, hc. cylindrical, pyriform, on Myr-  
sinaceae . . . . . *myrsinacearum* No. 358.
3111. 3223, s. 300—600  $\mu$ , hc. oblong, on  
Sapindaceae . . . . . *colladoi* No. 359.
3111. 5332, colonies 1—3 mm., s. 300—  
460  $\mu$ , hc. cylindrical,  $22 \approx 11$   $\mu$ , on  
Anonaceae . . . . . *xylopiæ* No. 360.
3111. 3233, s. 600—700  $\mu$ , hc. cylindrical,  
on Oleaceae . . . . . *jasminicola* No. 361.
3111. 4212, colonies 2—5 mm., s. 320—  
380  $\mu$ , perithecia small, hc. cylindrical,  
on Euphorbiaceae . . . . . *euphorbiæ* No. 362.
3111. 2222, colonies 2—5 mm., s. 200—  
350  $\mu$ , hc. oblong to ovate, or pyriform,  
on Araceae . . . . . *alocasias* No. 363.
3111. 4222, colonies 2—4 mm., dense to  
crustose, s. 185—310  $\mu$ , hc. oblong,  
crowded, on Myrtaceae . . . . . *hawaiiensis* No. 364.
3111. 4221, colonies 1—3 mm., s. 250—  
300  $\mu$ , hc. cylindrical, on unknown  
host . . . . . *mittchellæ* var. *orthopus* No. 365.
3111. 6233, colonies 2—5 mm., hc. often  
bent, ms. 332—664  $\mu$ , obtuse, on  
Ulmaceae . . . . . *celtidicola* No. 365 a.
- He. irregular or lobed
3111. 5234, colonies 1—2 cm., s. 800—  
1200  $\mu$ , hc. globose or lobed, on Ulma-  
ceae . . . . . *celtidias* No. 366.
3111. 4223, colony —1 cm., s. 800—1000  $\mu$ ,  
hc. ovoid or irregular, few, on Rubiaceae *longiseta* No. 367.
3111. 4222, colonies 3—10 mm., s. 230—  
460  $\mu$ , hc., sub-globose, cylindrical or  
irregular, on Rubiaceae . . . . . *alibertiæ* No. 368.
3111. 3223, s. 400—550  $\mu$ , hc. angular-  
globose or truncate, but not lobed, on  
Gramineae . . . . . *panicicola* No. 369.
3111. 3221, colonies 1—2 mm., dense,  
s. 175—240  $\mu$ , hc. globose or irregular,  
on Gesneriaceae . . . . . *pumila* No. 370.
3111. 5222, s. 300—400  $\mu$ , hc. ovate or  
angular, on Rubiaceae . . . . . *woodiana* No. 371.
3111. 4221, s. 280—300  $\mu$ , hc. ovate, entire  
or lobed, on Myrtaceae . . . . . *laxa* No. 372.

3111. 3223, colonies 5—10 mm., s. —700  $\mu$ ,  
 hc. ovate, pyriform or angular, on Pi-  
 peraceae . . . . . *paucipes* No. 373.
3111. 3111, colonies 3—4 mm., arachnoid,  
 s. 60—100  $\mu$ , hc. ovate, sub-lobed, on  
 Leguminosae . . . . . *subtortuosa* No. 374.
3111. 5332, colonies 1—1.5 mm., mycelium  
 sinuous, s. 4—6, 200—250  $\mu$ , few, hc.  
 ovate or lobed, on Rutaceae . . . . . *thuemeniana* No. 375.
3111. 4222, colonies 1—10 mm., s. 200—  
 270  $\mu$ , often uncinatc, hc. pyriform,  
 angular, on Combretaceae . . . . . *nigra* No. 376.
3111. 3223, s. diform, a 550  $\mu$ , b 150  $\mu$ ,  
 hc. irregular, on Sapindaceae . . . . . *equadorensis* No. 377.
3111. 2221, s. 200—250  $\mu$ , hc. irregular,  
 sub-globose, usually curved, on Legu-  
 minosae . . . . . *chamaecristae* No. 378.
3111. 4222, colonies 5 mm., s. 400—500  $\mu$ ,  
 hc. clavate, sub-lobed, stipe 6—10  $\mu$ ,  
 on Ranunculaceae . . . . . *knowltoniae* No. 379.
3111. 4332, colonies 1—3 mm., s. 200—  
 475  $\mu$ , hc. clavate, lobed, on Sterculia-  
 ceae . . . . . *pterospermi* No. 380.
3111. 4223, colonies 5—6 mm., s. 550—  
 700  $\mu$ , hc. sub-lobed or truncate, on  
 Apocynaceae . . . . . *carissae* No. 381.
3111. 6333, colonies 1—3 cm., s. 540—  
 620  $\mu$ , hc. very irregular, on Anacar-  
 diaceae . . . . . *holigarnae* No. 382.
3111. 4232, mycelium crooked, s. 400  $\mu$ ,  
 hc. cylindrical, irregular, on Legumi-  
 nosae . . . . . *tamarindi* No. 383.
3111. 4231, colonies 10 mm., s. 150—  
 230  $\mu$ , hc. oblong or irregular, on  
 Loranthaceae . . . . . *visci* No. 384.
3111. 3223, s. 400—600  $\mu$ , hc. 1—3 lobed,  
 on Gramineae . . . . . *panici* No. 385.
3111. 4223, colonies 2—4 mm., hc. regular,  
 oblong-clavate, s. 500—650  $\mu$ , on Euphor-  
 biaceae . . . . . *sauropicola* No. 386.
3111. 3222, colonies 1—2 cm., s. 250—  
 400  $\mu$ , hc. clavate to irregular, few, on  
 Melastomataceae . . . . . *oligopoda* No. 387.

3111. 4222, ch. alternate, rare, stalk cell long, hc. irregular, on Melastomataceae *brachycera* No. 388.  
 3111. 4221, colonies 5—10 mm., densely black, s. 200—275  $\mu$ , on fallen twigs. *aliena* No. 389.  
 3111. 5321, colonies 1—3 mm., s. 275—300  $\mu$ , hc. ovate or lobed, on Passifloraceae *aristata* No. 390.

Hc. not described

3111. 4231, colonies 2 mm., s. 55—60  $\mu$ , on Euphorbiaceae *heveae* No. 391.

No. 273. *Meliola lisianthi* Stevens & Tehon, Mycol. 18: 15. 1926.

On Gentianaceae: *Lisianthus*.

Type locality: Wismar, British Guiana, Stevens 316.

Citation: 266\*.

New record: On Gentianaceae ind. Costa Rica, El Alto, July 6, 1923, 279, on *Chelonanthus acutangulus*. Costa Rica, El Alto, Sept. 6, 1923, 246.

The Costa Rican material differs slightly from that from Guiana in that the spores are  $36 \approx 14 \mu$  and the setae 300—390  $\mu$ .

No. 274. *Meliola anonae* n. sp.

Colony epiphyllous, circular, 2—5 mm. in diameter. Mycelium slender, 6  $\mu$ , straight, branching at acute angles. Capitate hyphopodia alternate. Stalk cell short, 3—4  $\mu$ ; head cell globose, regular, 11  $\mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae 185—215  $\mu$ , 8—9  $\mu$  thick at base, usually very slightly enlarged at tip, slightly curved. Perithecia globose, smooth, 90—125  $\mu$ . Asci evanescent. Spores 4-septate,  $29-32 \approx 11-15 \mu$ .

Group number 3111. 3221. Fig. 41.

On Anonaceae: *Anona purpurea*. Panama, Mandingo, Oct. 15, 1924, 1238, Paitilla Point, Sept. 8, 1924, 342.

This differs from all forms described on the Anonaceae in the character of the swollen setal tips, in which it resembles *M. clavulata* and from which species it differs in many regards.

No. 275. *Meliola crescentiae* n. sp.

Colony epiphyllous, black, dense, irregular, 2—4 mm. across. Mycelium straight. Capitate hyphopodia alternate. Stalk cell short, 3—4  $\mu$ ; head cell sub-globose to ovoid, about 9  $\mu$ . Mucronate hyphopodia ampulliform, often opposite.

Perithecial setae none. Mycelial setae few, arising mostly near the base of the perithecium, black, substraight, 170—180  $\mu$ , slightly swollen at the tip. Perithecia 123—140  $\mu$  in diameter, smooth. Asci evanescent. Spores 4-septate,  $28 \approx 9 \mu$ .

Group number 3111. 2121. Fig. 42.

On Bignoniaceae: *Crescentia* sp. Trinidad, Cumuto, Aug. 18, 1922, 940.  
On *Heterophragma roxburghii*. India, Dharwar, Bombay, Dec. 1918, Leg. Sedgwick.

Citation: 264a.

No. 276. *Meliola clavulata* Winter, Hedw. 25: 98. 1886.

On Convolvulaceae: 348, 349, 83, 184, *Ipomoea* 307, 221, 261, 271, 253, 331a. On Leguminosae: *Ormocarpum* 21, 22.

Type locality: St. Thomas, Africa, Moller, on Convolvulaceae.

Distribution: Africa 348, 249, 21, 22, 83; Brazil 184; Porto Rico 261, 253; India 307; Philippines 271; Mexico 221; Santo Domingo 331a.

Citations: 348\*, 83\*, 261\*, 230a.

Specimen: Winter, co-type.

New records: On *Ipomoea*, Costa Rica, Columbiana, July 19, 1923, 573, 563, Siquirres, July 31, 1923, 663; Panama, France Field, Oct. 30, 1924, 957; British Guiana, Tumatumari, July 12, 1922, 228, Kartabo, July 23, 1922, 617, 633, 632a. On *Ipomoea glabra*. Trinidad, St. Clair, Aug. 15, 1922, 897.

No. 277. *Meliola clavulata* var. *batatae* n. var.

Colony circular, black, 1—2 mm. in diameter. Mycelium moderately dense, crooked, irregularly branched, dark. Capitate hyphopodia alternate, short-stalked; head cell globose, 10—14  $\mu$ . Mucronate hyphopodia bottle-shaped.

Perithecial setae none. Mycelial setae 280—308  $\mu$ , simple, straight or crooked, tip obtuse. Perithecia slightly rough, 60—138  $\mu$ . Spores 4-septate,  $29 \approx 14$ —16  $\mu$ .

Group number 3111. 3222. Fig. 43.

On Convolvulaceae: *Ipomoea batatas*. British Guiana, Tumatumari, July 11, 1922, 214 (type), July 12, 1922, 229; Kartabo, July 23, 1922, 632. On *Ipomoea* sps; Costa Rica, Experiencia Farm, July 18, 1923, 516, Peralta, July 11, 1923, 344, July 12, 1923, 355, 348; Ecuador, Terecita, Oct. 29, 1924, 30; Panama, Summit, Sept. 6, 1924, 329, Pedro Miguel, Sept. 9, 1924, 392, Chiva-Chiva trail, Sept. 18, 1924, 600, 616, Baille Mona, Sept. 20, 1924, 683, Gatun, Sept. 26, 1924, 836, Oct. 11, 1924, 1210, Las Cruces Trail, Sept. 28, 1924, 866, Mandingo, Oct. 15, 1924, 1333, 1345.

This form has essentially the mycelium and capitate hyphopodia of *M. clavulata* but the setae are obtuse. The perithecia are smaller and rougher than those of *M. clavulata* and *M. malacotricha*.

No. 278. *Meliola hercules* v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna) Math. Natur. Kl. 118: 316. 1909.

On Gramineae: *Anthistiria* (?).

Type locality: Buitenzorg. Java.

No. 279. *Meliola hispida* n. sp.

Colonies epiphyllous, circular, black, dense, 1—3 mm. in diameter, loosely attached. Mycelium thick, 10—11  $\mu$ , arranged regularly, angles acute,



opposite or alternate. Capitate hyphopodia alternate. Stalk cell 7—14  $\mu$ ; head cell clavate, oblong or very irregularly lobed, 25  $\approx$  18  $\mu$ . Mucronate hyphopodia ampulliform, few, small, 14  $\mu$  long.

Perithecial setae none. Mycelial setae 600—780  $\mu$  long, 14—15  $\mu$  thick, black, straight, stiff, obtuse at tip, hispid throughout most of the upper part and often well toward the base, with small sharp teeth, about 1  $\mu$  high and 8  $\mu$  apart, sometimes somewhat pale toward the tip. Perithecia globose, smooth, 185—200  $\mu$  in diameter. Asci evanescent. Spores 4-septate, 54—61  $\approx$  18—22  $\mu$ , pale, constricted.

Group number 3111. 6223. Fig. 44.

On Marantaceae: *Calathea macrosepala*. Costa Rica, Sabario, Aug. 8, 1923, 797.

This fungus is remarkable for its very thick mycelial threads and setae, but especially for the hispid character of the setae. A form which agrees in colony and setae with the above, but which differed in that the setae were very few and in that the mycelium was of very different character occurred on *Calathea*, 569, Costa Rica, Columbiana, July 19, 1923.

No. 280. *Meliola styracicola* Spegazzini, An. Mus. Nac., Buenos Aires 23: no. 1344, 1912.

On Styracaceae: *Styrax*.

Type locality: Argentine.

Citation: 255.

This species according to Spegazzini (255) is without setae in the hypophyllous colonies. The conic papillae of the perithecium approach the larviform.

Specimen: the type.

No. 281. *Meliola memecyli* Sydow, H. & P., Annal. Mycol. 12: 198. 1914.

On Melastomataceae: *Memecylon*.

Type locality: India.

Distribution: India 295, 288; Philippines 301, 275, 288.

Specimens: Syd., Fungi Exot. Exs. 377, 251, Phil. Bur. Sci. 21910.

No. 282. *Meliola samarensis* Yates, Philippine Jour. Sci., C. Bot., 12: 368. 1917.

On unknown host.

Type locality: Samar, Philippines, Bur. Sci. 24919 Ramos.

Specimen: the type.

No. 283. *Meliola popowiae* Doidge, Trans. Roy. Soc. So. Africa 8: 142. 1920.

On Anonaceae: *Popowia* 51, *Anona* 331a.

Type locality: Natal, So. Africa, Doidge 11587.

Distribution: Natal 51; Santo Domingo 331a.

Citation: 51\*.

No. 284. *Meliola meibomiae* Stevens & Tehon, Mycol. 18: 7. 1926.

On Leguminosae: *Meibomia*.

Type locality: British Guiana, Stevens 434.

Citation: 266\*.

No. 285. *Meliola pithecolobii* Stevens & Tehon, Mycol. 18: 9. 1926.

On Leguminosae: Pithecolobium.

Type locality: Trinidad, Stevens 966.

Citation: 266.

No. 286. *Meliola scaevolae* Sydow, H. & P., Annal. Mycol. 12: 551. 1914.

On Goodeniaceae: Scaevola.

Type locality: Tayabas, Philippines, Bur. Sci. 21212a.

Specimen: the cotype, Phil. Bur. Sci. 21212.

No. 287. *Meliola gnathonella* Stevens & Tehon, Mycol. 18: 16. 1926.

On Bignoniaceae: Jacaranda.

Type locality: British Guiana, Stevens 231.

Citation: 266\*.

No. 288. *Meliola shropshiriana* n. sp.

Colonies epiphyllous, 3—10 mm. in diameter. Mycelium 6  $\mu$  in diameter, sinuous. Capitate hyphopodia alternate, close, 25  $\mu$ , or distant, 80  $\mu$ . Stalk cell short, 3—7  $\mu$ ; head cell sub-globose, 11  $\mu$ . Mucronate hyphopodia ampulliform, few, 18  $\approx$  7  $\mu$ .

Perithecial setae none. Mycelial setae few, 2—6, black, 90—125  $\mu$ , 7  $\mu$  thick at base, grouped around the perithecia, arising from a subicular disk, curved, often very slightly enlarged at the tip, obtuse, often coiled at tip. Perithecia globose, smooth, 138—155  $\mu$ , on radiate discs. Asci evanescent. Spores 4-septate, 32—36  $\approx$  14  $\mu$ .

Group number 3111, 3221. Fig. 45.

On Bignoniaceae indet. Panama, Corozal, Trail 17, Aug. 30, 1924, 115 (type) and 110, Las Cruces Trail, Sept. 2, 1924, 153, 169.

The setae may in some instances be perithecial outgrowths, but in all cases distinctly seen they came from the subicular disk. The distinctive character is in the setae, limited to the disk.

No. 289. *Meliola caymanensis* Ellis & Everhart, in Millspaugh, Col. Mus. Pub. Bot., Ser. 1, 2: 15. 1900.

On Convolvulaceae: Pharbitis.

Type locality: Grand Cayman Island, near Georgetown.

Citation: 139\*.

Specimen: the type.

Though originally described as without mycelial setae the type specimen is accompanied by drawings showing setae and they are also evident on the specimen though in very small numbers, 180—230  $\mu$  long, obtuse. A most characteristic feature of the species is its angled mycelium with a capitate hyphopodium at each angle.

No. 290. *Meliola exocarpiæ* Yates, Philippine Jour. Sci., C. Bot., 13: 368. 1918.

On Santalaceae: Exocarpus.

Type locality: Luzon, Philippines, Bur. Sci. 27846, Ramos.

Specimen: the type. Fig. 46.

No. 291. *Meliola polytricha* Kalchbrenner & Cooke, var. *abyssinica* Hennings, Bul. Herb. Boissier, Sér. 1: 117. 1893.

On Santalaceae: *Osyris*.

Type locality: Abyssinia. Fig. 47.

No. 292. *Meliola microspora* Patouillard & Gaillard, Bul. Soc. Myc. France 4: 104. 1888.

*Meliola hyptidis* Sydow, H. & P., Annal. Mycol. 8: 36. 1910.

*Meliola cavitensis* Yates, Philippine Jour. Sci., C. Bot., 13: 366. 1916.

On Verbenaceae: *Aegiphila* 101. On Scrophulariaceae 101, 334. On Labiatae 83, *Hyptis* 283, 284, 4, 5, 301, *Coleus* 354. On Convolvulaceae 184. On Bignoniaceae: *Tecoma* 184. On Apocynaceae: *Forsteronia* 184. On Loganiaceae: *Spigelia* 184. On Rubiaceae: 184. On Malvaceae: *Sida* 198.

Type locality: Venezuela 262, on Labiatae.

Distribution: Venezuela 83; Amazon 101; Brazil 184; Philippines 198, 283, 284, 4, 5, 301, 354.

Citation: 83\*.

Specimens: the type, Ule Myc. Univ. 61. Union So. Afr. 1760. Syd., Fungi Exot. Exs. 373—374, Phil. Bur. Sci. 24005, the type of *M. cavitensis*.

I see no sufficient distinction between *M. hyptidis* and *M. microspora*, and little or no distinction between these and *M. ambigua*, but of the last I have no type specimen. Study of the type of *M. cavitensis* also shows no distinction though if the numerous spores in the ascus can be demonstrated that fact may be significant.

No. 293. *Meliola ramosii* Sydow, H. & P., Annal. Mycol, 12: 552. 1914.

On Euphorbiaceae: *Homonoia*.

Type locality: Luzon, Philippines, Bur. Sci., S. 246, 20993. Fig. 48.

Citations: 301, 354, 275.

Specimens: Baker, Fungi Mal. 552, Syd., Fungi Exot. Exs. 378, Phil. Bur. Sci. 29079.

No. 294. *Meliola longispora* (Gaillard) n. comb.

*Meliola malacotricha* Spegazzini var. *longispora* Gaillard, Le Gen. Mel., 82. 1892.

On Euphorbiaceae: *Croton*. On Sapindaceae: *Paullinia* 184, *Serjania* 206.

Type locality: St. Catharina, Brazil, Ule 1006, on *Croton*.

Citation: 166.

Specimens: Rab., Wint. & Pazsch., Fungi europ. 3851, Ule, Myc. Bras. 2272.

The specimen F. europ. 3851 has alternate hyphopodia, setae obtuse, mycelium irregular.

Sydow says this form is near *M. ramosii* but not identical, that the spores of *M. ramosii* are smaller.

No. 295. *Meliola monnieriae* n. sp.

Colony amphigenous, mainly epiphyllous. Mycelium crooked, branching opposite or irregular. Capitate hyphopodia alternate or unilateral. Stalk

cell short, 3—4  $\mu$ ; head cell regular, sub-globose to ovoid,  $12 \approx 9 \mu$ . Mucronate hyphopodia mostly opposite, 14—18  $\mu$  long, neck 9  $\mu$ , narrow.

Perithecial setae none. Mycelial setae few, clustered at the base of the perithecium, 150—280  $\mu$  long, simple, slightly curved, obtuse. Perithecia 107—140  $\mu$ , globose, smooth. Asci evanescent. Spores 4-septate,  $28-32 \approx 11-13 \mu$ .

Group number 3111. 3221. Fig. 49.

On Rutaceae: *Monnieria trifolia*. British Guiana, Kartabo, July 21, 1922.

No. 296. *Meliola macropoda* Sydow, H., Annal. Mycol. 24: 296. 1926.

On Rutaceae: *Zanthoxylon*.

Type locality: San Pedro de San Ramon, Costa Rica 113b.

Specimen: the type.

No. 297. *Meliola simillima* Ellis & Everhart, in Hitchcock Ann. Rept. 9: Mo. Bot. Gard. 118. 1898.

*Meliola wrightiae* Yates, Philippine Jour. Sci., C. Bot., 13: 371. 1918.

On Apocynaceae: *Echites*, *Wrightia* 354, *Holarrhena* 264a.

Type locality: Bahama.

Distribution: Bahama; Philippines 354; India 264a.

Citation: 277a.

Specimens: the type, the type of *M. wrightiae*.

This is in general aspect much like *M. tabernaemontanae*.

No. 298. *Meliola mandevillae* n. sp.

Colony amphigenous, small, 1—3 mm., circular. Mycelium close to lax, irregularly branched, crooked. Spot none. Capitate hyphopodia alternate, stalk cell short, 3—4  $\mu$ , head cell ovoid to globose, regular, 11  $\mu$  in diameter. Mucronate hyphopodia few.

Perithecial setae none. Mycelial setae black, crooked, obtuse, 230—400  $\mu$  long, mostly near the perithecia. Perithecia slightly rough, 155—170  $\mu$  in diameter. Asci evanescent, 2-spored. Spores 4-septate,  $32-40 \approx 14-15 \mu$ .

Group number 3111. 3222. Fig. 50.

On Apocynaceae: *Mandevilla* sp. British Guiana, Kartabo, July 23, 1922, 626 type; Panama, Corozal, Trail 17, Aug. 30, 1924, 102, Agua Clara Reservoir, Sept. 17, 1924, 553.

The most characteristic feature is perhaps in the crooked setae tapering gradually from base to apex and usually about 250—300  $\mu$  long. The hypophyllous colonies have longer setae, 600—700  $\mu$ , and are more loose and lax. The formulae therefore for hypophyllous colonies would be 3111. 3223.

No. 299. *Meliola anonacearum* n. sp.

Colony epiphyllous, 1—4 mm. in diameter. Mycelium very crooked and anastomosing. Capitate hyphopodia solitary at the bends in the mycelium. Stalk cell short, 3—4  $\mu$ ; head cell sub-globose, ovate or truncate. Mucronate hyphopodia ampulliform.



Perithecial setae none. Mycelial setae 185—215  $\mu$ , black, simple, obtuse. Perithecia globose, smooth, 107—125  $\mu$ . Asci evanescent, 2-spored. Spores 4-septate, 36—39  $\approx$  14—15  $\mu$ .

Group number 3111. 3221. Fig. 51.

On Anonaceae: Anona. Ecuador, Barr'n'ital, Nov. 17, 1924, 320.

The very striking character of the mycelium (Fig. 51) distinguishes this from other *Meliolas*.

No. 300. *Meliola olecranonis* Stevens & Tehon, Mycol. 18: 15. 1926.

On Myrtaceae: Psidium.

Type locality: British Guiana, Stevens 64.

Citation: 266\*.

No. 301. *Meliola ouroupariae* n. sp.

Colonies epiphyllous, black, circular, 1—5 mm. Mycelium slightly crooked, 6  $\mu$  thick, dark. Spot equalling the colony, visible from the lower side of the leaf as a dead area. Capitate hyphopodia alternate, antrorse. Stalk cell short, 3—4  $\mu$ ; head cell sub-globose to elliptical, 14—18  $\approx$  10  $\mu$ . Mucronate hyphopodia ampulliform, 18  $\approx$  7  $\mu$ .

Perithecial setae none. Mycelial setae dark, about 200  $\mu$  long, 6  $\mu$  thick at base, obtuse, sometimes very slightly crenulate near the tip. Perithecia globose, smooth, 125—140  $\mu$ . Asci evanescent. Spores 4-septate, 28—32  $\approx$  10  $\mu$ .

Group number 3111. 3121. Fig. 52.

On Rubiaceae: Ourouparia tomentosa (*Uncaria*). Costa Rica, Sabario, Aug. 8, 1923, 800.

The species differs decidedly from *I. uncariae* in possessing setae and in having alternate hyphopodia; also in its parasitism which is quite striking. It differs from *M. anceps* also described on this host genus in that its setae are always simple, and from other nearly related species in its parasitism.

No. 302. *Meliola psychotriae* Earle, Bul. N. Y. Bot. Gard. 3: 308. 1905.

*Meliola microspora* Patouillard & Gaillard var. *africana* Doidge, Trans. Roy. Soc. So. Africa 5: 732. 1917.

On Rubiaceae 9, Psychotria 58, Borreria 261, Gonzalagunia 261, Erithalis 58, 261, Guettarda 261, Randia 29, 261, Chiococca 261, Coprosma 261, Galopina 45. On Labiatae: Plectranthus 45. On Acanthaceae: Isoglossa, Barleria 45.

Type locality: Porto Rico, Heller 6252, on Psychotria.

Distribution: Porto Rico 58, 261, 29; Congo, Africa 9; South Africa 45, Santo Domingo 331a.

Citations: 251, 45\*.

Specimens: the type, Union So. Afr. 12441, 11576.

New records: On Rubiaceae: Sabicea hirsuta. Ecuador, Terecita, Oct. 29, 1924, 74. On Rondeletia amoena. Costa Rica, Cartago, Jan. 23, 1923, 93. On Hamelia erecta. Panama, Mandingo, Oct. 15, 1924, 1341. On Acanthaceae indet. Panama, Culebra, Oct. 2, 1924, 912. (This specimen agrees

well with one from South Africa from Miss Doidge, on *Galopina* 1760, in its quite characteristic mycelium, hyphopodia and setae.) On *Coccocypselum* sp. British Guiana, Kartabo, July 23, 1922, 604.

No. 303. *Meliola eveae* n. sp.

Colony hypophyllous, arachnoid, diffuse, indefinite, very loose. Mycelium very loose, smooth. Capitate hyphopodia alternate, distant, 90  $\mu$ . Stalk cell 3—7  $\mu$  long; head cell regular, ovoid, 14—18  $\approx$  7—9  $\mu$ . Mucronate hyphopodia short, ampulliform.

Perithecial setae none. Mycelial setae few, black, simple, straight, obtuse, 150—230  $\mu$ . Perithecia 108—150  $\mu$ , smooth. Spores 4-septate, 43  $\approx$  8  $\mu$ , strongly constricted.

Group number 3111. 4121. Fig. 53.

On Rubiaceae: *Evea* sp. British Guiana, Tumatumari, July 9, 1922, 87, 93. On *Cephaelis muscosa*. Trinidad, Cumuto, Aug. 16, 1922, 945 (type).

Though near *M. woodiana* in formula it is a very different species in the character of its colony and its mycelium.

No. 304. *Meliola malaneae* Stevens & Tehon, Mycol. 18: 17. 1926.

On Rubiaceae: *Malanea*, Psychotria.

Type locality: Trinidad, Stevens 911.

Citation: 266\*.

New records: On Rubiaceae ind. Panama, Gamboa, Aug. 16, 1923, 1093. On Psychotria sp. Ecuador, Terecita, Oct. 29, 1924, 83; Costa Rica, Experiencia Farm, July 18, 1923, 550. On *Palicourea* sp. Costa Rica, Port Limon, Aug. 10, 1923, 877.

No. 305. *Meliola vicina* Sydow, H., Annal. Mycol. 21: 95. 1923.

On Rubiaceae: *Timonius*.

Type locality: Palawan, Philippines 8886 Merrill.

Specimen: the type.

No. 306. *Meliola amphigena* Stevens & Tehon, Mycol. 18: 16. 1926.

On an undetermined Rubiaceae.

Type locality: British Guiana, Stevens 168. Fig. 54.

New records: On Rubiaceae: *Borreria* sp. Costa Rica, Peralta, July 13, 1923, 472, Peralta, July 12, 1923, 365. On *Isertia*. Panama, Brazos Brook Reservoir, Sept. 22, 1924, 737, Frijoles, Oct. 14, 1924, 1268, 1276.

No. 307. *Meliola columneae* n. sp.

Colonies hypophyllous, 2—5 mm. Mycelium thin, very crooked, 4—5  $\mu$ , capitate hyphopodia alternate, stalk cell short, 3—4  $\mu$ ; head cell elliptical or sub-globose, regular, 9—14  $\approx$  7—9  $\mu$ , mucronate hyphopodia ampulliform, perithecial setae none, mycelial setae dark, simple, obtuse, 180—215  $\mu$ , quite uniform in length, 7  $\mu$  thick at base. Perithecia globose, smooth, 120  $\mu$ . Asci evanescent, spores 4-septate, 25—28  $\approx$  7—8  $\mu$ .

Group number 3111. 2121. Fig. 55.

On Gesneriaceae: *Columnea heterophylla*. Costa Rica, Siquirres, July 31, 1923, 677.

No. 308. *Meliola byrsonimicola* Stevens & Tehon, Mycol. 18: 10. 1926.

On Malpighiaceae: Byrsonima.

Type locality: British Guiana, Stevens 333.

Citation: 266\*.

No. 309. *Meliola alangil* Sydow, H. & P., Annal. Mycol. 14: 355. 1916.

On Cornaceae: Alangium.

Type locality: Los Baños, Philippines, Baker 4019.

Specimen: Baker, Fungi Mal. 247.

No. 310. *Meliola corallina* Montagne, in Gay, Hist. Chile 7: 472. 1850.

*Dothidea corallina* Montagne, Ann. Sci. Nat., Ser. 2, 3: 347. 1835.

*Asterina compacta* Léveillé, Ann. Sci. Nat. 60. 1845.

*Meliola compacta* (Léveillé) Spegazzini (not Earle). Fungi Chilenses 25: 1910.

On Magnoliaceae: Drymis 145, 147, 154, 83, 184, 249, 255, 248, 25.

Type locality: Juan Fernandez, Chile, Bertero.

Distribution: Chile 145, 154, 248, 12; Brazil 184; Cuba 147; Juan Fernandez 12, 83; Argentine 249, 255; Australia 31.

Citations: 145\*, 154\*, 83\*, 69\*, 248\*, 25\*, 15\*, 106\*, 251a.

Specimen: Gay, Chile.

A specimen from Queensland reported under this name by Berkeley and Broome became *M. berkeleyi* Pat. The study of Patouillard (154) was made from Drymis from Chile collected by Bertero and showed the spores 4-septate. The type is in the Museum of Paris.

No. 311. *Meliola corallina* Montagne var. *javanica* v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna) Math.-natur. Kl. 118: 1172. 1909.

On Magnoliaceae: Magnolia.

Type locality: Java.

Citations: 106\*, 109.

No. 312. *Meliola clerodendricola* Hennings, Hedw. 37: 288. 1898.

On Verbenaceae: Clerodendron 92, 294, 4, 354.

Type locality: Central Africa, Schweinfurth 2753.

Distribution: Africa 92; Philippines 294, 4, 5, 354.

Specimens: the type. Syd., Fungi Exot. Exs. 171, 370. Phil. Bur. Sci. 171.

No. 313. *Meliola micromera* Sydow, H. & P., Annal. Mycol. 12: 552. 1914.

On Verbenaceae: Gmelina.

Type locality: Bulacan, Philippines, Bur. Sci. 21807 Ramos.

Citation: 354.

Specimen: the type, Phil. Bur. Sci. 25895.

This species is closely like No. 312 and perhaps the two should be united. Both closely resemble No. 314 but appear to have smaller spores.

This is perhaps identical with or a variety of *M. sakawensis*.

No. 314. *Meliola sakawensis* Hennings, Hedw. 43: 141. 1904.

*Meliola sakawensis* Hennings var. *longispora* Beeli, Bul. Jard. Bot. Bruxelles 7: 98. 1920.

On Verbenaceae: *Clerodendron* 100, 9, *Vitex* 264a.

Type locality: Japan.

Distribution: Japan 100; Philippines 198, 4, 301; Congo, Africa 9; India 264a.

Specimens: the type. Phil. Bur. Sci. 25346. The type of the variety *longispora*.

No. 315. *Meliola coccolobis* Stevens & Tehon, Mycol. 18: 5. 1925.

On Polygonaceae: *Coccoloba*.

Type locality: British Guiana, Kartabo, Stevens 655.

Distribution: British Guiana; Trinidad.

Citation: 266\*.

No. 316. *Meliola kartaboensis* n. sp.

Colony dense, black, 3—10 mm. in diameter, amphigenous, mostly epiphyllous. Mycelium crooked, dark. Spots none. Capitate hyphopodia alternate. Stalk cell short, 3—4  $\mu$ ; head cell globose to ovoid, 10  $\mu$  in diameter. Mucronate hyphopodia narrow.

Perithecial setae none. Mycelial setae numerous, black, crooked, simple, obtuse, 180—280  $\mu$ . Perithecia 80—90  $\mu$ , smooth. Asci evanescent, 2-spored. Spores 4-septate, 29—32  $\approx$  10—12  $\mu$ .

Group number 3111. 3211. Fig. 56.

On Solanaceae: *Solanum*. British Guiana, Kartabo, July 24, 1921, 635.

This differs from *M. capsicola*, of the group number 3111, in colony, mycelium and particularly in capitate hyphopodia; from *M. cestri* and *M. gesneriae*, both reported on the Solanaceae in both setae and spores.

No. 317. *Meliola catubigensis* Yates, Philippine Jour. Sci., C. Bot., 12: 363. 1917.

On Loranthaceae: *Loranthus*.

Type locality: Samar, Philippines, Bur. Sci. 24624 Ramos.

Specimen: the type.

No. 318. *Meliola banarae* n. sp.

Colony diffuse, black, epiphyllous. Mycelium sinuous, translucent, 7  $\mu$  thick. Capitate hyphopodia alternate. Stalk cell short, 3—4  $\mu$ , head cell globose to ovate, 14  $\mu$ , regular. Mucronate hyphopodia ampulliform, 21  $\approx$  6  $\mu$ .

Perithecial setae none. Mycelial setae black, obtuse, curved, 150—200  $\approx$  6  $\mu$ , few except near the perithecium. Perithecia globose when mature, smooth, 150—185  $\mu$ , borne on a radiate disk. Asci evanescent. Spores 4-septate, 43—47  $\approx$  17—18  $\mu$ .

Group number 3111. 4221. Fig. 57.

On Flacourtiaceae: *Banara guianensis*. Panama, New Limon, Oct. 4, 1924, 1017, Ft. Lorenzo Trail, Oct. 10, 1924, 1189 (type).

The young perithecial disk is characteristic in that it is distinctly radiate and entire at its margin. It attains considerable size, 130  $\mu$ , before any swelling is evident.



No. 319. *Meliola rizalensis* Sydow, H. & P., Annal. Mycol. 12: 551. 1914.  
On Verbenaceae: Vitex.

Type locality: Rizal, Philippines, Bur. Sci. 294.

Citations: 301, 116.

Specimens: the type, Syd., Fungi Exot. Exs. 379, Phil. Bur. Sci. 23971.

No. 320. *Meliola rizalensis* Sydow, H. & P. var. *panamensis* n. var.

Colony epiphyllous, indefinite, 1—5 mm. in diameter. Mycelium scant, slightly crooked. Capitate hyphopodia alternate, antrorse. Stalk cell short, 3—4  $\mu$ ; head cell ovate, regular,  $14 \approx 10 \mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae 125—230  $\mu$ , obtuse, more abundant near the perithecia. Perithecia globose, smooth, —123  $\mu$ , from alveolar disks. Asci evanescent. Spores 4-septate,  $30 \approx 11 \mu$ .

Group number 3111. 3211. Fig. 58.

On Vitaceae: Cissus rhombifolia. Panama, Fort Randolph, 100 feet hill trail, Sept. 9, 1923, 761.

This differs from the type in its more lax mycelium, shorter setae, located near the perithecia.

No. 321. *Meliola spegazziniana* Winter in An. Soc. Cient. Argentina 26: no. 64. 1888.

On Compositae: 241, 211, 83, 184, 313, Moquinia 255, Chuquiragua 313.

On Borraginaceae: Cordia 184.

Type locality: Paraguay, Balansa 3751.

Distribution: Paraguay 241, 211, 83, 313; Brazil 184, 313; Argentine 255.

Citations: 83\*, 263\*.

Specimens: the type, Balansa 3751, Roum., Fungi Sel. Gal. Exs. 5238.

No. 322. *Meliola eugeniae* Sydow, H., Philippine Jour. Sci., C. Bot., 21: 133. 1922.

On Myrtaceae: Eugenia.

Type locality: Amboina, Reliquiae Robinsonianae 2163.

Specimen: the type. Fig. 59.

No. 323. *Meliola mayepeae* Stevens, Ill. Biol. Mono. 2: 48. 1916.

On Oleaceae: Mayepea.

Type locality: Porto Rico, Stevens 7468.

Citations: 261\*, 215.

No. 324. *Meliola marantae* n. sp.

Fungus amphigenous; epiphyllous colonies large, 1 cm. or more wide, thin, spreading; hypophyllous colonies smaller, irregular. Perithecia smooth, about 120—140  $\mu$  in diameter. Mycelial setae more or less straight, septate, ends obtuse, about 180—200  $\approx 3 \mu$ ; often clustered about the bases of the perithecia. Asci evanescent. Spores 4-septate,  $32 \approx 11 \mu$ . Mycelial branches opposite, at acute angles. Capitate hyphopodia alternate; head cell ovate, about  $10 \approx 7 \mu$ , basal cell short, about  $3.5 \approx 8.5 \mu$ . Mucronate hyphopodia opposite and alternate, light brown.

Group number 3111. 3221. Fig. 60.

On Marantaceae, British Guiana, Rockstone, July 17, 1922, 465 (type).

On Maranta arundinacea. British Guiana, Tumatumari, July 12, 1922, 202.

A species of *Helminthosporium* was found overgrowing the colonies of the type specimen. Some of the host leaves of the type specimen were spotted with an undetermined fly speck.

Citation: 215\*.

No. 325. *Meliola paraensis* Hennings, Hedw., Beiblatt, 39: 77. 1900.

On Verbenaceae: Vitex.

Type locality: Para, Amazon.

Specimen: the type.

No. 326. *Meliola ambigua* Patouillard & Gaillard var. *major* Patouillard and Gaillard, Bul. Soc. Mycol. France 4: 105. 1888.

On Convolvulaceae: Evolvulus 160, 83.

Type locality: Venezuela.

Citations: 83\*, 313.

Theissen gives the spores of this form as  $50-55 \approx 22-25 \mu$ , which would give a formula 3111. 53—.

No. 327. *Meliola strychnicola* Gaillard, Le Gen. Mel. 72. 1892.

On Loganiaceae: Strychnos 83, Spigelia 163.

Type locality: Congo, Africa.

Distribution: Congo, Africa 83; Ecuador 83, 163.

Citation: 83\*.

Specimen: the type. Fig. 61.

New records: On Loganiaceae: Strychnos taxifera. Panama, France Field, Sept. 2, 1924, 196, Brazos Brook Reservoir, Sept. 22, 1924, 723.

No. 328. *Meliola gymnanthicola* Stevens, Ill. Biol. Mon. 2: 49. 1916.

On Euphorbiaceae: Gymnanthes.

Type locality: Porto Rico, Stevens 8596.

Citation: 230a.

No. 329. *Meliola gymnanthicola* Stevens var. *manihot* (Stevens & Tehon) n. comb.

*Meliola manihot* Stevens & Tehon, Mycol. 18: 11. 1926.

On Euphorbiaceae: Manihot.

Type locality: British Guiana, Stevens 217.

Citations: 266\*, 215.

No. 330. *Meliola platysperma* Theissen, Broteria 12: 23. 1914.

On Meliaceae: Guarea.

Type locality: Brazil.

No. 331. *Meliola obvallata* Sydow, H., Annal. Mycol. 21: 90. 1923.

On Meliaceae: Aglaia.

Type locality: British North Borneo, 2206 Ramos.

Specimen: the type.

This species by descriptions is distinguished from *M. leptochacta* only by the spore cells.

No. 332. *Meliola leptochaeta* Sydow, H. & P., Annal. Mycol. **15**: 187. 1917.

On Meliaceae: Vavaea.

Type locality: Luzon, Philippines, Bur. Sci. 25009 Yates. Fig. 62.

Specimen: the type.

No. 333. *Meliola irosinensis* Sydow, H., Leaflet. Philippine Bot. **9**: 3118. 1925.

On Araliaceae: Boerlagiodendron.

Type locality: Sorsogon, Philippines 14526.

Specimen: the type.

No. 334. *Meliola pteridicola* Stevens, Ill. Biol. Mono. **2**: 28. 1916.

On Schizaeaceae: Aneimia, Adiantum.

Type locality: Porto Rico, Stevens 7814.

Citations: 261\*, 29, 230a.

New records: On *Adiantum macrophyllum*. Costa Rica, Peralta, July 14, 1923, 484, July 11, 1923, 333. On *Adiantum* sp. Panama, Gamboa, Aug. 16, 1923, 1086. On *Adiantum petiolatum*. Panama, Gamboa, Aug. 16, 1923, 1098. On *Lygodium polymorphum*. Panama, Corozal, Trail 17, Aug. 30, 1924, 123, Las Cruces Trail, Sept. 2, 1924, 164, Ft. Randolph, 100 feet hill trail, Sept. 23, 1924, 780. On *Lygodium radiatum*. Panama, France Field, Sept. 2, 1924, 209, Oct. 3, 1924, 995. On *Lygodium* sp. Panama, Agua Clara Reservoir, Sept. 17, 1924, 582.

This species much resembles *I. tortuosa* from which it differs in its more rectilinear mycelium and in its more regular capitate hyphopodia. In the original description it was given as without mycelial setae whereas I now regard these setae as from the subicular disk, not from the perithecium, thus changing the formula to read 3111. 3221. It is possible that specimens previously reported upon Pteridophytes as *M. tortuosa* really are of this species. The perithecia are borne on beautiful radiate disks and long remain dimidiate. The setae are easily overlooked and may indeed sometimes be absent.

No. 335. *Meliola magna* n. sp.

Colonies black, circular, 1—2 cm. in diameter. Mycelium amphigenous, straight, branching at acute angles, mostly opposite, 8  $\mu$  thick. Capitate hyphopodia alternate, distant, usually 140  $\mu$ . Stalk cell long, 25  $\mu$ ; head cell 25  $\approx$  20  $\mu$ , clavate, regular. Mucronate hyphopodia ampulliform, 28—46  $\approx$  7  $\mu$ , neck long.

Perithecial setae none. Mycelial setae —1400  $\mu$ , black, simple, gracefully curved, 10  $\mu$  thick at base, obtuse. Perithecia globose, smooth, 200—260  $\mu$ , originating on a radiate subicle. Asci evanescent. Spores 4-septate, 57—61  $\approx$  22  $\mu$ .

Group number 3111. 6334. Fig. 63.

On Lauraceae: Nectandra. Costa Rica, Peralta, July 12, 1923, 373.

No. 336. *Meliola lanigera* Spegazzini, An. Mus. Nac., Buenos Aires, **19**: 327. 1909.

*Meliola spinigera* Spegazzini, An. Soc. Cient., Argentina **9**: n. 118. 1880.

*Meliola brasiliensis* Spegazzini var. *sanguineo-maculans* Rehm, in Rick Fungi Aust.-Am. 156, in Annal. Mycol. **5**: 337. 1907.

On Anacardiaceae: *Lithraea* 247, 254, 255, 313, *Schinus* 255, 205. On Myrtaceae 166.

Type locality: Argentine.

Distribution: Argentine 255, 247; Brazil 254, 242, 83, 166, 313.

Citations: 235, 133\*, 251a.

Specimens: Ule 196, Rick 156.

No. 336a. *Meliola chilensis* Spegazzini, Bol. Acad. Nac. Cien. Argentina 25: 41. 1921.

On Anacardiaceae: *Schinus*.

Type locality: Chili.

No. 337. *Meliola semecarpi* Sydow, H., Annal. Mycol. 21: 95. 1923.

On Anacardiaceae: *Semecarpus*.

Type locality: Palawan, Philippines, Merrill 8753.

Specimen: the type.

No. 338. *Meliola colliguajae* Spegazzini, An. Mus. Nac., Buenos Aires, 23: 40, no. 1335. 1912.

On Euphorbiaceae: *Colliguaja*.

Type locality: Argentine.

Citation: 255.

No. 339. *Meliola gleditschiae* Spegazzini, An. Mus. Nac., Buenos Aires, 23: no. 1337. 1912.

On Leguminosae: *Gleditschia*.

Type locality: Argentine.

Citations: 263\*, 255.

Specimen: the type.

No. 340. *Meliola holocalicis* Spegazzini, An. Mus. Nac., Buenos Aires, 32: 370. 1924.

On Leguminosae: *Holocalyx*.

Type locality: Argentine.

No. 341. *Meliola erythrinae* Sydow, H. & P., Annal. Mycol. 15: 185. 1917.

On Leguminosae: *Erythrina*.

Type locality: Luzon, Philippines, Bur. Sci. 24052 Ramos.

Citation: 116.

Specimen: the type.

The description leads one to suspect that the perithecia may bear larviform appendages, but study of the type specimen fails to show such.

No. 342. *Meliola tabernaemontanae* Spegazzini, An. Mus. Nac., Buenos Aires, 23: no. 1345, 1922.

On Apocynaceae: *Tabernaemontana* 249, 261, 255, *Plumiera* 261, *Rauwolfia* 261.

Type locality: Argentine.

Distribution: Porto Rico 261; Argentine 255; Dominica 71, 29b, 331a.

Citations: 263\*, 71, 277a, 230a.

Specimen: the type.



New records: On *Tabernaemontana* sp. Panama, Tapia, Aug. 15, 1923, 1041; Costa Rica, San Cecelia, Aug. 8, 1923, 764. On *Tabernaemontana grandiflora*. Panama, Punta Bruja, Sept. 16, 1924, 526, Las Cruces trail, Sept. 28, 1924, 874. 160, Mandingo, Oct. 15, 1924, 1364, Corozal Trail 17, Aug. 30, 1924, 90.

The Panamanian specimens differ slightly from the original description and the type material, chiefly in that in the Panamanian specimens the setae are always toruloid; the spores are also smaller,  $29 \approx 11 \mu$ . Spegazzini gives the hyphopodia also as alternate or opposite. I have never found them opposite.

No. 343. *Meliola tabernaemontanae* Spegazzini var. *forsteroniae* Stevens, Ill. Biol. Mono. 2: 50, 1916.

On Apocynaceae: *Forsteronia*.

Type locality: Porto Rico, Stevens 4682.

Citation: 230a.

No. 344. *Meliola euopla* Syd. nom. nov. in litt.

*Meliola vicina* Sydow, H., Annal. Mycol. 24: 310. 1926.

On Apocynaceae: *Rauwolfia nitida*.

Type locality: Los Angeles de San Ramon, Costa Rica 133.

Specimen: the type.

No. 345. *Meliola integriseta* Spegazzini, An. Mus. Nac., Buenos Aires, 32: 376. 1924.

*Meliola sapindacearum* Spegazzini var. *integrisseta* Speg., An. Mus. Nac. Hist. Nat., Buenos Aires, 10: 328, no. 482. 1909.

On Sapindaceae: *Serjania*.

Type locality: Argentine.

No. 346. *Meliola integrisseta* Spegazzini var. *stevensii* (Beeli) n. comb.

*Meliola stevensii* Beeli, Bul. Jard. Bot. Bruxelles 7: 98. 1920.

On Sapindaceae.

Type locality: Congo, Africa, Vanderyst 2031.

Citation: 215.

Specimen: the type.

No. 347. *Meliola integrisseta* Spegazzini var. *lepisanthea* (Saccardo) n. comb.

*Meliola lepisanthea* Saccardo, in Atti dell' Accad. Veneto-Trentino-Istriana 10: 61. 1917. New description in Sydow, H. and P., Annal. Mycol. 15: 194. 1917.

On Sapindaceae: *Lepisanthes*.

Type locality: Luzon, Philippines, Bur. Sci. 24058.

Specimens: the type. Baker.

No. 348. *Meliola ambigua* Patouillard & Gaillard, Bul. Soc. Myc. France 4: 104. 1888.

On Labiatae 160, 83, 313. On Verbenaceae: *Verbena* 83, 313, 162, 9, *Lantana* 83, 313, 261, 9, 277a, 331a. On Sapindaceae 184, 313, *Serjania* 83, 166, 313, 9, 331a, *Allophylus* 184, 313, 331a. On Euphorbiaceae 184. On Melastomataceae 184, 313. On Bignoniaceae 184, 313. On Aristolochiaceae 184, 313. On Malvaceae 184. On Convolvulaceae 9. On Flacourtiaceae: *Casearia* 331a.

Type locality: Venezuela, no. 184, on Labiatae.

Distribution: Venezuela 160, 162, 83, 313; Brazil 184, 166, 83, 313; Ecuador 83, 313, 261; Porto Rico 261; Panama 261; Costa Rica 277a; Santo Domingo 331a.

Citations: 83\*, 230a.

Data are given in the original description for the formula 311-. 324-. Gaillard's later figures show the hyphopodia alternate and the setae over 300  $\mu$  long.

New records: On Lantana. Panama, Summit, Sept. 12, 1924, 460, Culebra, Oct. 2, 1924, 923, Mandingo, Oct. 10, 1924, 1344; Ecuador, Ambata, Nov. 14, 1924, 326; Peru, Hda. Chalhupquio, Dec. 7, 1924, 145.

No. 349. *Meliola mayepeicola* Stevens, Ill. Biol. Mono. 2: 51. 1916.

On Oleaceae: Mayepea.

Type locality: Porto Rico, Stevens 7556.

No. 350. *Meliola yerbae* Spegazzini, An. Mus. Nac., Buenos Aires, Ser. 3, 10: 115. 1909.

On Aquifoliaceae: Ilex.

Type locality: Argentine.

Citation: 255.

No. 351. *Meliola calopogonii* n. sp.

Colonies epiphyllous, circular, 3—5 mm., not dense. Mycelium very sinuous, thin, 5—6  $\mu$ , translucent. Capitulate hyphopodia mostly alternate, distant, 28—48  $\mu$ . Stalk cell short, 3—4  $\mu$ ; head cell pyriform, small, 7  $\approx$  11  $\mu$ , 18—25  $\mu$  apart. Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae only from the subicular disk, curved, apex simple, obtuse, 107—130  $\mu$  long. Perithecia globose, smooth, 92  $\mu$ , borne on a subicular disk. Asci evanescent. Spores 4-septate, 32—36  $\approx$  11  $\mu$ .

Group number 3111. 3211. Fig. 64.

On Leguminosae: Calopogonium. Panama, Punta Bruja, Sept. 16, 1924, 525.

This in many characters is quite distinct from the forms previously noted on Calopogonium and is particularly characterized by its thin, sinuous mycelium with small regular hyphopodia and the subicular setose disk.

No. 352. *Meliola cestri* Tehon, Bot. Gaz. 57: 505. 1919.

On Solanaceae: Cestrum.

Type locality: Porto Rico, Stevens 7576.

Citation: 230a.

No. 353. *Meliola peruviana* Sydow, H. & P., Annal. Mycol. 14: 75. 1916.

On Bignoniaceae.

Type locality: Peru, Ule 3452.

Specimen: the type.

New records: On Arrabidaea sp. indet. Panama, Agua Clara Reservoir, Sept. 17, 1924, 545. On Arrabidaea pachycalyx. Panama, Brazos Brook Reservoir, Sept. 22, 1924, 717.

No. 354. *Meliola peruviana* var. *irregularis* n. var.

Colonies amphigenous, circular, loose, 1—10 mm. in diameter. Mycelium sinuous, translucent, very thin, 4—5  $\mu$ . Capitate hyphopodia alternate, very small, distant, 36  $\mu$ , antrorse. Stalk cell short, 3—4  $\mu$ ; head cell ovate,  $11 \approx 7$   $\mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae 85—200  $\mu$  long, translucent, simple, obtuse, 5  $\mu$  thick at base, slightly toruloid near the tip. Perithecia globose, smooth, 107—125  $\mu$ , on alveolar disks. Asci evanescent, 2-spored. Spores 4-septate, 25—22  $\approx$  7—8  $\mu$ , often slightly curved and the cells often irregular.

Group number 3111. 2111. Fig. 70.

On Bignoniaceae indet. Panama, Barro Colorado, Sept. 10, 1924, 420, 421, Agua Clara Reservoir, Sept. 17, 1924, 547.

This differs essentially from the type in its more numerous setae and lax, irregular mycelium and irregular spores, but is in mycelium otherwise like the type.

No. 355. *Meliola megalocarpa* Sydow, H., Annal. Mycol. 21: 94. 1923.

On Ebenaceae: Maba.

Type locality: Luzon, Philippines, Bur. Sci. 21213.

Specimen: the type.

No. 356. *Meliola lucumae* Stevens, Ill. Biol. Mono. 2: 49. 1916.

On Sapotaceae: Lucuma 261, 255, Chrysophyllum 255.

Type locality: Porto Rico, Stevens 8596.

Distribution: Porto Rico 261; Argentine 255.

Citations: 261\*, 230a.

Spegazzini, based on Argentine material, gives the setae on Chrysophyllum as 250—500  $\mu$ , those on Lucuma as 200—300  $\mu$ .

No. 357. *Meliola xylosmae* n. sp.

Colonies thin, irregular, 2—9 mm. in diameter. Mycelium slightly irregular. Capitate hyphopodia alternate, antrorse. Stalk cell short, 3—4  $\mu$ ; head cell cylindrical,  $18 \approx 7$   $\mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae 170—230  $\mu$ , obtuse. Perithecia globose, smooth, —110  $\mu$ , from a disk. Asci evanescent. Spores 4-septate,  $28 \approx 11$   $\mu$ .

Group number 3111. 2221. Fig. 65.

On Flacourtiaceae: Myroxylon intermedium. Panama, Pedro Miguel, Aug. 16, 1923, 1103.

This is quite distinct from *M. banarac* in the shape of its hyphopodia.

No. 358. *Meliola myrsinacearum* Stevens, Ill. Biol. Mono. 2: 40. 1916.

On Myrsinaceae: Ardisia.

Type locality: Porto Rico, Stevens 7576.

New record: On Myrsinaceae: Ardisia(?). Costa Rica, Cartago, June 23, 1923, 65. The *Meliola* is so heavily overgrown by parasites that the determination is not certain.

Citation: 230a.

No. 359. *Meliola colladoi* Sydow, H. & P., Annal. Mycol. 18: 98. 1920.

On Sapindaceae: Arytera.

Type locality: Laguna, Philippines, Collado 6227.

No. 360. *Meliola xylopie* n. sp.

Colony (a) epiphyllous, circular, regular, definite, 1–3 mm., dense; (b) hypophyllous, irregular, indefinite, black, 3–30 mm. Mycelium branching irregularly. Capitulate hyphopodia alternate. Stalk cell short, 3–4  $\mu$ ; head cell cylindrical,  $22 \approx 11$ –13  $\mu$ . Mucronate hyphopodia ampulliform frequently very numerous,  $18$ – $32 \approx 7$   $\mu$ , neck long.

Perithecial setae none. Mycelial setae numerous, black, curved, but not uncinat, 300–400  $\mu$  long, 9  $\mu$  thick at base, 7  $\mu$  at apex, obtuse, pale toward the apex, and very slightly roughened. Perithecia globose, 185–230  $\mu$ , smooth. Asci evanescent. Spores 4-septate,  $54 \approx 25$   $\mu$ .

Group number 3111. 5332. Fig. 66.

On Anonaceae: *Xylopia grandiflora*. Panama, France Field, Oct. 3, 1924, 1102. On *Xylopia frutescens*. Panama, France Field, Oct. 3, 1924, 988.

The setae usually are as described above, pale at the tip distinctly roughened and obtuse, but in a very few instances setae with a globular enlargement at the tip were seen, these both from epiphyllous and hypophyllous colonies.

Though resembling *M. anonae* in its setae this is really very distinct from that species, in the length of setae, size of spores and particularly in the very different capitulate hyphopodia, as well as in the general character of the colonies. The development of great numbers of mucronate hyphopodia in some regions while other regions are quite devoid of them is characteristic.

No. 361. *Meliola jasminicola* Hennings, Hedw. 34: 11. 1895.

On Oleaceae: Jasminum.

Type locality: Tonkin, Hennings 4542.

Distribution: Germany 90; Philippines 293, 4, 5; Borneo 353; India 8. Citations: 267, 8\*.

Specimen: the type. Phil. Bur. Sci. 39262.

Bal (8) states that the hyphopodia are alternate or opposite.

No. 362. *Meliola euphorbiae* Stevens & Tehon, Annal. Mycol. 18: 11. 1926.

On an undetermined Euphorbiaceae.

Type locality: Kartabo, British Guiana, Stevens 663.

Citation: 266\*.

No. 363. *Meliola alocasiae* Sydow, H., Leaf. Philippine Bot. 9: 3114. 1925.

On Araceae: Alocasia.

Type locality: Sorsogon, Philippines, 16333.

Specimen: the type.

No. 364. *Meliola hawaiiensis* Stevens, Bish. Mus. Bul. 19: 37. 1925.

On Myrtaceae: Eugenia.

Type locality: Hawaii, Stevens 667.

Citation: 264\*.



- No. 365. *Meliola mitchellae* Cooke var. *orthopus* Theissen, Brot. 9: 34. 1910.  
On unknown host.  
Type locality: Brazil.
- No. 365a. *Meliola celtidicola* van der Bijl, So. African Jour. Sci. 23: 283. 1916.  
On Ulmaceae: Celtis. *last name Celtis not Symplocos*  
Type locality: So. Africa. *like Symplocos mitchellae*
- No. 366. *Meliola celtidiae* Yates, Philippine Jour. Sci., C. Bot., 13: 367. 1918.  
On Ulmaceae: Celtis.  
Type locality: Philippines, Bur. Sci. 24616 Ramos.  
Specimen: the type.
- No. 367. *Meliola longiseta* v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna), Math.-natur. Kl. 116: 100. 1907.  
On Rubiaceae: Psychotria.  
Type locality: Samoa.  
Specimen: the type.
- No. 368. *Meliola alibertiae* n. sp.  
Colonies amphigenous, diffuse, 3—10 mm. Mycelium straight, dark, 7  $\mu$  thick. Capitate hyphopodia mainly alternate, rarely opposite, antrorse or perpendicular. Stalk cell short, 3—4  $\mu$ ; head cell sub-globose, cylindrical or slightly irregular, 14  $\approx$  8  $\mu$ . Mucronate hyphopodia ampulliform, 18—25  $\approx$  6  $\mu$ .  
Perithecial setae none. Mycelial setae 230—460  $\mu$ , crooked, simple, obtuse. Perithecia globose, smooth, 120—140  $\mu$ , borne on an alveolar disk 45  $\mu$  in diameter. Asci evanescent. Spores 4-septate, 43—50  $\approx$  18  $\mu$ .  
Group number 3111. 4222. Fig. 67.
- On Rubiaceae: Alibertia edulis. Panama, Las Cruces Trail, Sept. 1, 1924, 145.  
This species lies near to *M. mitragynes* but differs from that species in its mycelial setae being always obtuse, its capitate hyphopodia smaller with the head cell often elongate, and the spores somewhat larger.
- No. 369. *Meliola panicicola* Sydow, H. & P., Annal. Mycol. 12: 552. 1914.  
On Gramineae: Panicum.  
Type locality: Camarines, Philippines, Bur. Sci. 22127.  
Citation: 301.  
Specimen: the type.
- No. 370. *Meliola pumila* Sydow, H., Leaf. Philippine Bot. 9: 3119. 1925.  
On Gesneriaceae: Boea.  
Type locality: Sorsogon, Philippines 17411.  
Specimen: the type.
- No. 371. *Meliola woodiana* Saccardo, in Sydow, Hedw. 38: (132). 1899.  
*Meliola falcata* Sydow, H. & P., Annal. Mycol. 10: 37. 1912.

On unknown host 278. On Rubiaceae: *Plectronia* 285, 45, 18, *Pavetta* 45. On Zygophyllaceae, *Guaiaecum* 331a.

Type locality: Natal, Africa, on Rubiaceae.

Distribution: Africa 278, 285, 45, 18; Argentine 247; Santo Domingo 331a.

Citations: 153, 45\*.

Doidge and Sydow say that the host of the type specimen is *Plectronia*.

No. 372. *Meliola laxa* Gaillard, Bul. Soc. Mycol. France 8: 179. 1892.

On Myrtaceae: 84, 251, 163, *Eugenia* 255.

Type locality: Ecuador.

Distribution: Guarapi 251; Ecuador 84, 163; Argentine 249, 255; Brazil 245.

Citation: 84\*.

No. 373. *Meliola paucipes* Stevens, Ill. Biol. Mono. 2: 42. 1916.

On Piperaceae: *Piper*.

Type locality: Porto Rico, Stevens 7463.

Citations: 261\*, 215.

A typographical error occurred in the original description. The setae are mycelial, not perithecial.

No. 374. *Meliola subtortuosa* Rehm, Hedwigia 40: 162. 1901.

On Leguminosae: *Caesalpinia*.

Type locality: Brazil, Ule 704.

No. 375. *Meliola thuemeniana* n. sp.

*Meliola microthecia* Thuemen ex Gaillard, Le Gen. Mel. 73. 1892.

On Rutaceae: *Barosma*.

Type locality: Cape of Good Hope, South Africa.

Citations: 83\*, 45\*.

Specimens: De Thuem., Myc. Univ. 851.

Spegazzini (254) has referred to this species as *Meliola microthecia* Gaillard, a course that is not permissible since the name was preempted as *Meliola microthecia* de Thuemen. See p. 295. The most adequate description is that given by Doidge.

No. 376. *Meliola nigra* Stevens, Ill. Biol. Mono. 2: 37. 1916.

On Combretaceae: *Laguncularia*.

Type locality: Porto Rico, Stevens 7197.

Citations: 29, 230a.

No. 377. *Meliola equadorensis* n. sp.

Colony epiphyllous, irregular, 2—5 mm. in diameter. Mycelium straight. Capitate hyphopodia alternate. Stalk cell short, 3—4  $\mu$ ; head cell angular. Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae diform: (a) black, 540  $\mu$  long, 9  $\mu$  thick at base, obtuse; (b) 150  $\mu$  long, 6  $\mu$  thick at base. Perithecia globose, smooth, 155  $\mu$ , on a radiate subicle. Asci evanescent. Spores 4-septate, 36  $\approx$  14  $\mu$ .

Group number 3111. 3223. Fig. 68.

On Sapindaceae ind. Ecuador, San Miguel, Nov. 4, 1924, 207.

No. 378. *Meliola chamaecristae* Earle, Bul. N. Y. Bot. Gard. 3: 304. 1905.  
On Leguminosae: Chamaecrista.

Type locality: Porto Rico, Heller 6371.

Citations: 261, 230a.

Specimen: co-type.

No. 379. *Meliola knowltoniae* Doidge, Both. 1: 208. 1923.

On Ranunculaceae: Knowltonia.

Type locality: Natal, South Africa, Doidge 17177.

Citation: 56\*.

No. 380. *Meliola pterospermi* n. sp.

Colonies epiphyllous, black, circular, 1—3 mm. in diameter, often confluent and largely covering the leaf. Mycelium dark, crooked, closely tangled, but hardly crustose, 7—8  $\mu$  thick. Capitate hyphopodia alternate, numerous. Stalk cell short, 3—4  $\mu$ ; head cell clavate, usually irregular to lobed, sometimes crenate,  $18 \approx 14 \mu$ . Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae simple, 200—245  $\mu$ , obtuse, dark, lighter at tip, often curved, septate. Perithecia globose, rough, 175—250  $\mu$  in diameter, arising from radiate disks. Asci 2—4-spored, evanescent, 50—80  $\approx$  17—35  $\mu$ . Spores 4-septate, 35—50  $\approx$  15—22  $\mu$ , middle cells generally swollen.

Group number 3111. 4332.

On Sterculiaceae: Pterospermum sp. India, Bassein, Burma, Nov. 31, 1912, 1987.

No true *Meliola* has heretofore been reported upon any of the Sterculiaceae. In general classification this species is near *M. tamarindi*.

Citation: 264a\*.

No. 381. *Meliola carissae* Doidge, Both. 1: 72. 1922.

On Apocynaceae: Carissa.

Type locality: Natal, South Africa, Doidge 12296.

Citation: 54\*.

Specimen: Union So. Afr. 12408.

No. 382. *Meliola holigarnae* n. sp.

Colonies hypophyllous, sub-circular, 1—3 cm. in diameter, sooty black, velvety. Mycelium thin, pale, non-adherent. Spot none. Capitate hyphopodia alternate, not abundant, very irregular and irregularly spaced. Stalk cell short, 11  $\mu$  to 22—30  $\mu$  long; head cell very irregular, ovate, clavate or lobed,  $25 \approx 14 \mu$ . Mucronate hyphopodia ampulliform, few.

Perithecial setae none. Mycelial setae simple, obtuse, dark, very numerous, crooked, 540—620  $\mu$ . Perithecia globose, rough, 114—266  $\mu$ . Asci mostly 2-spored, ovate, 50—88  $\approx$  22—44  $\mu$ . Spores elliptical, 4-septate, 60—69  $\approx$  24—30  $\mu$ . Middle cell much larger than the others.

Group number 3111. 6333.

On Anacardiaceae: *Holigarna grahamii*. India, Anmod, N. Kanara, Dec. 25. 1917. No. 1981 (type), Ekambi, N. Kanara, Oct. 1919. No. 1986a. Leg. Sedgwick.

Citation: 264a.

No species resembling this has been noted on the Anacardiaceae or indeed on any other host. The abundant non-adherent mycelium with very irregularly spaced hyphopodia which are also irregular in shape, as well as the spores of great size and characteristic shape, are distinctive. The aspect of the fungus throughout is rather that of a *Meliolina* than of a *Meliola* and the paucity of hyphopodia emphasizes this relationship. It constitutes a very interesting transition form between these genera.

No. 383. *Meliola tamarindi* Sydow, H. & P., Annal. Mycol. 10: 79. 1912.

.On Leguminosae: *Tamarindus*.

Type locality: Manila, Philippines, Merrill 7416.

Citations: 287, 4, 301, 353.

Specimens: the type. Syd., Fungi Exot. Exs. 29.

No. 384. *Meliola visci* Stevens, Bish. Mus. Bul. 19: 38. 1925.

On Loranthaceae: *Viscum*.

Type locality: Oahu, Hawaiian Islands, Stevens 167.

Citation: 264\*.

No. 385. *Meliola panici* Earle, Muhl. 1: 12. 1901.

*Meliola substenospora* Höhnelt forma *rottboelliae* Rehm, Annal. Mycol. 15: 192. 1917.

On Gramineae: *Panicum* 57, 201, 5, 261, 29, *Lasiacis* 261, *Oplismenus* 261, *Andropogon* 261, *Rottboellia* 301, *Olyra* 261, 29, 331a, *Chloris* 261, *Ichnanthus* 261, 29, *Paspalum* 9, *Stipa* 54.

Type locality: Porto Rico, Heller 4343, on *Panicum*.

Distribution: South Africa 54; Porto Rico 261, 57, 29; Philippines 201, Santo Domingo 331a.

Citations: 5, 215, 54\*, 230a.

Specimens: the type. Union So. Afr. 12358, Fung. Mal. 45, Rehm Ascom. 1874.

New records: On Gramineae: *Andropogon bicornis*. Panama, Las Cruces trail, Sept. 2, 1924, 162. On *Olyra latifolia*. Panama, Barro Colorado, Sept. 10, 1924, 428; Costa Rica, Port Limon, Aug. 9, 1923, 839, Sabario, Aug. 8, 1923, 801. On *Panicum megistion*. Panama, France Field, Sept. 2, 1924, 213. On *Homolepis aturensis*. Panama, France Field, Sept. 2, 1924, 217. On *Lasiacis oaxacensis*. Panama, Brazos Brook reservoir, Sept. 22, 1924, 734. On *Lasiacis procerrima*. Panama, Agua Clara reservoir, Sept. 17, 1924, 550, New Limon, Oct. 4, 1924, 1014, Ft. Lorenzo Trail, Oct. 10, 1924, 1185, Brazos Brook reservoir, Sept. 22, 1924, 704. On *Lasiacis rudifolia*. Panama, Culebra, Oct. 2, 1924, 942. On *Lasiacis ruscifolia*. Panama, Paitilla Pt., Sept. 8, 1924, 369, 364, Old Corozal Road, Sept. 5, 1924, 284; Costa Rica, Guapiles, July 18, 1923, 526. On *Lasiacis sorghoidea*.



Panama, Corozal, Trail 17, Aug. 30, 1924, *III*; Costa Rica, Peralta, July 14, 1923, *478*, Parismina Junction, July 20, 1923, *604*, Juan Mina, Aug. 18, 1923, *1161*; Ecuador, Terecita, Oct. 30, 1924, *147*, Barr'n'ital, Nov. 17, 1924, *314*; Trinidad, Cumato, Aug. 16, 1922, *884*. On Gramineae indet. Panama, New Limon, Oct. 4, 1924, *1020a*, Brazos Brook reservoir, Sept. 22, 1924, *750*, Agua Clara Reservoir, Sept. 17, 1924, *566*, Las Cruces trail, Sept. 28, 1924, *871*, Bella Vista, Oct. 7, 1924, *1110*, Culebra, Oct. 2, 1924, *914*. On *Chusquea pittieri*. Panama, Alehjuela, Aug. 18, 1923, *1141*, Juan Mina, Aug. 18, 1923, *1165*. On *Isachne arundinacea*. Ecuador, Terecita, Oct. 29, 1924, *57*, *71*; Costa Rica, Peralta, July 12, 1923, *367*.

No. 386. *Meliola sauropicola* Yates, Philippine Jour. Sci., C. Bot., **12**: 368. 1917.

On Euphorbiaceae: *Sauropus*.

Type locality: Samar, Philippines, Bur. Sci. *24705* Ramos.

Specimen: the type.

No. 387. *Meliola oligopoda* Sydow, H., Annal. Mycol. **21**: 89. 1923.

On Melastomataceae.

Type locality: British North Borneo, *2079* Ramos.

Specimens: the type. No. *2079*.

No. 388. *Meliola brachycera* Sydow, H., Annal. Mycol. **24**: 297. 1926.

On Melastomataceae: *Conostegia lanceolata*.

Type locality: San Pedro de San Ramon, Costa Rica. *142*.

Specimen: the type. Fig. 69.

Examination of the type specimen shows setae —310  $\mu$ , capitate hyphopodia alternate, often rare, sometimes abundant. The capitate hyphopodia have stalk cells 8—10  $\mu$  long, the head cell nearly globose, usually regular but sometimes angular, 10—13  $\mu$ . The mucronate hyphopodia are peculiarly long and slender. The perithecium is very rough with protuberances, somewhat resembling vermiform appendages, but still differing markedly from such. The structures called setae are perhaps only ascending branches of mycelium. The peculiar mucronate and capitate hyphopodia and setae mark this as quite distinct from any other species.

No. 389. *Meliola aliena* Sydow, H. & P., Leaf. Philippine Bot. **5**: 1535. 1912.

On fallen twigs.

Type locality: Palawan, Philippines, *12586*.

Citations: 4, 301.

Specimens: the type, Phil. Bur. Sci. *21786*.

No. 390. *Meliola aristata* Toro, Mycol. **19**: 74. 1927.

On Passifloraceae: *Passiflora*

Type locality: Santo Domingo.

Citation: 331a\*.

No. 391. *Meliola heveae* Vincens, Bul. Soc. Path. Vég. France 2: 26. 1925.

On Euphorbiaceae: Hevea.

Type locality: Amazon.

Citation: 335\*.

### Conspectus of Group 10, *Meliola*.

3111. 4223, colonies 1—5 mm., s. 350—660  $\mu$ , hc.  
globose or recurved, on Aristolochiaceae . . . *aristolochiae* No. 392.
3111. 5322, colonies 3—5 mm., s. 350—500  $\mu$ , hc.  
globose, on Moraceae . . . *artocarpiae* No. 393.
3111. 3213, colonies 2—5 mm., s. 400—630  $\mu$ , hc.  
sub-globose, on Compositae . . . *angustispora* No. 394.
3111. 4221, colonies 1—2 cm., s. 250—300  $\mu$ , hc.  
sub-globose, on Oleaceae . . . *tayabensis* No. 395.
3111. 5233, colonies 5—10 mm., s. 700—1000  $\mu$ ,  
hc. sub-globose, ovate, 12—14  $\mu$ , on Guttiferae . *garciniae* No. 396.
3111. 3121, colonies 1—4 mm., disk alveolar, s.  
160  $\mu$ , hc. ovoid, pyriform or irregular, regular  
mycelium pale, on Urticaceae . . . *earlii* No. 398.
3111. 4232, colonies 3—7 mm., mycelium flexuose,  
s. 200—500  $\mu$ , hc. clavate, on Ulmaceae . . . *celtidum* No. 399.
3111. 5223, colonies 2—5 mm., s. 1000  $\mu$ , hc. ovate  
or elliptical, on Malpighiaceae . . . *byrsonimae* No. 400.
3111. 4222, colonies 2—10 mm., s. 300—500  $\mu$ , hc.  
elliptical to globose, on Burseraceae . . . *canarii* No. 401.
3111. 5323, colonies 1—2 cm., mycelium not very  
crooked, s. 600—700  $\mu$ , hc. oblong or irregular,  
15—20  $\mu$ , on Connaraceae . . . *connariae* No. 403.
3111. 4223, mycelium crooked, s. 600—900  $\mu$ , biform,  
hc. angular or curved or lobed, on Connaraceae . *roureae* No. 404.
3111. 6222, colonies 3—8 mm., s. 260—320  $\mu$ , hc.  
ovoid or slightly lobed, on Marantaceae . . . *calathecicola* No. 405.
3111. 3221, s. 280  $\mu$ , disk radiate, irregular, mycelium  
dark, hc. lobed, on Urticaceae . . . *thomasiana* No. 406.
3111. 22—1, s. 150—250  $\mu$ , on Lauraceae . zig-zag var. *discreta* No. 407.
3111. 4221, s. 350—500  $\mu$ , hc. globose or lobed, on  
Anacardiaceae . . . *polytricha* var. *flexuosiseta* No. 408.

No. 392. *Meliola aristolochiae* Stevens & Tehon, Mycol. 18: 4. 1926.

On Aristolochiaceae: Aristolochia.

Type locality: British Guiana, Stevens 459.

Citation: 266\*.

New record: On Aristolochia sp. Costa Rica, Siquirres, July 31, 1923,  
691, Port Limon, Aug. 10, 1923, 890.

No. 393. *Meliola artocarpiae* Yates, Philippine Jour. Sci., C. Bot., 12: 362. 1917.

On Moraceae: Artocarpus.

Type locality: Samar, Philippines, Bur. Sci. 24692 Ramos.

Specimen: the type.

No. 394. *Meliola angustispora* n. sp.

Colonies amphigenous circular, 2—5 mm. Mycelium crooked, dark, 7—9  $\mu$  thick. Capitate hyphopodia alternate. Stalk cell short, 3—4  $\mu$ ; head cell sub-globose, 11  $\mu$ . Mucronate hyphopodia ampulliform, 18—21  $\approx$  7  $\mu$ .

Perithecial setae none. Mycelial setae simple, straight, 400—630  $\mu$ , 11  $\mu$  thick at base, black, acute or obtuse. Perithecia globose, smooth, 90—95  $\mu$ . Asci evanescent. Spores 4-septate, 39—43  $\approx$  11  $\mu$ .

Group number 3111. 3213. Fig. 71.

On Compositae: Baccharis rhexioides. Panama, Paitilla Pt., Sept. 9, 1924, 344.

No. 395. *Meliola tayabensis* Yates, Philippine Jour. Sc., C. Bot., 12: 369. 1917.

On Oleaceae: Linociera.

Type locality: Luzon, Philippines, Bur. Sci. 25649 Yates.

Specimen: the type.

This species is distinguished from *M. linocierae* by its larger spores and longer setae.

No. 396. *Meliola garciniae* Yates, Philippine Jour. Sci., C. Bot., 13: 369. 1918.

On Guttiferae: Garcinia.

Type locality: Luzon, Philippines, Bur. Sci. 27795.

Specimen: the type.

No. 398. *Meliola earlii* Stevens, Ill. Biol. Mono. 2: 47. 1916.

On Urticaceae: Pilea.

Type locality: Porto Rico, Stevens 7685.

Citations: 261\*, 230a.

No. 399. *Meliola celtidum* Spegazzini, An. Mus. Nac., Buenos Aires, 32: 368. 1924.

On Ulmaceae: Celtis.

Type locality: Argentine.

No. 400. *Meliola byrsonimae* Stevens, Ill. Biol. Mono. 2: 49. 1916.

On Malpighiaceae: Byrsonima.

Type locality: Porto Rico, Stevens 3541.

Citation: 230a.

New records: On *Byrsonima crassifolia*. Panama, Las Cruces Trail, Sept. 28, 1924, 888, Sept. 2, 1924, 159.

No. 401. *Meliola canarii* Sydow, H. & P., Annal. Mycol. 12: 550. 1914.

*Meliola nigro-rufescens* Saccardo, Atti Accad. Veneto-Trentino-Istria 10: 60. 1914.

On Burseraceae: *Canarium*.

Type locality: Luzon, Philippines, McGregor, Bur. Sci. 20256.

Citations: 271, 301, 275.

Specimens: Phil. Bur. Sci. 23877, Baker, Fungi Mal. 547, 363.

No. 403. *Meliola connariae* Yates, Philippine Jour. Sci., C. Bot. 12: 364, 1917.

Given as *M. connari* by Trotter in the Sylloge Fungorum Vol. 24.

On Connaraceae: *Connarus*.

Type locality: Luzon, Philippines, Yates, Bur. Sci. 25622.

Specimen: the type.

New record: On *Connarus panamensis*. Panama, Gatuncillo, Aug. 18, 1923, 1143.

No. 404. *Meliola roureae* Sydow, H. & P., Annal. Mycol. 15: 191. 1917.

*Meliola roureae* Yates, Philippine Jour. Sci., C. Bot., 13: 370. 1918.

On Connaraceae: *Rourea*.

Type locality: Luzon, Philippines, Bur. Sci. 23926.

Citation: 273.

Specimens: the type. Phil. Bur. Sci. 23997, 27724.

No. 405. *Meliola calathecicola* n. sp.

Colony 3—8 mm. in diameter, black, dense. Mycelium sinuous or straight with the veins. Capitate hyphopodia alternate. Stalk cell short, 3—6  $\mu$ ; head cell ovoid, sometimes short cylindric or slightly lobed, often bent or inserted laterally. Mucronate hyphopodia ampulliform, 18—25  $\mu$   $\approx$  7—8  $\mu$ .

Perithecial setae none. Mycelial setae 260—320  $\mu$ , black, 11  $\mu$  thick at base, usually strongly bent but hardly uncinuate, tips obtuse or acute. Perithecia globose, smooth, 185  $\mu$  in diameter. Asci evanescent. Spores 4-septate, 61  $\mu$   $\approx$  15  $\mu$ .

Group number 3111. 6222. Fig. 72.

On Marantaceae: Petioles of *Calathea lutea*. Costa Rica, Port Limon, Aug. 10, 1923, 882.

No. 406. *Meliola thomasiana* Saccardo, Bol. Soc. Brot. 21: 4. 1904—05.

On Urticaceae: *Elatostema*.

Type locality: St. Thomas, Africa.

Specimen: the type.

Though the original description reads "spores 3-septate" the type specimen, kindly loaned to me by Dr. Trotter, shows them to be 4-septate as did also Saccardo's drawings on the packet. To Saccardo's description may be added, hyphopodia alternate, mycelium very crooked, colony dense, becoming crustose.

No. 407. *Meliola zig-zag* Berkely & Curtis var. *discreta* Starbäck, Ark. Bot. 5: No. 7: 7. 1905.

On Lauraceae: *Cinnamomum*.

Type locality: Brazil.



No. 408. *Meliola polytricha* Kalchbrenner & Cooke var. *flexuosiseta*  
Spegazzini, Rev. Mus. La Plata, 15: 16. 1908.

On Anacardiaceae: *Schinus*.

Type locality: Brazil.

### Conspectus of Group 11, *Meliola*.

Spore ends conic

3111. 4222, colonies 3—6 mm., s. 300—  
350  $\mu$ , hc. globose, on Myrtaceae . . . *psidii* No. 409.

Spore ends not conic, ch. mostly curved

3111. 5223, colonies 2—10 mm., s. 450—  
600  $\mu$ , on Myrsinaceae . . . *ardisiae* No. 410.

Ch. and spores not as above

Hc. regular

3111. 4221, colonies 1 cm., s. 150—300  $\mu$ ,  
hc. globose, on Myrsinaceae . . . *delicatula* No. 411.  
3111. 4222, colonies 2—4 mm., crustose,  
s. 350—500  $\mu$ , hc. globose, on Lauraceae *zigzag* No. 412.  
3111. 5222, colonies 10—12 mm., s. 300—  
420  $\mu$ , hc. globose, on unknown host . *leptospora* No. 413.  
3111. 3221, s. 150—300  $\mu$ , hc. globose, on  
Bignoniaceae . . . *brasiliensis* No. 414.  
3111. 5323, colonies 1—5 mm., mycelium  
straight, s. 500—800  $\mu$ , hc. globose, sub-  
globose, on Cyperaceae . . . *mapaniae* No. 415.  
3111. 3223, s. 300—700  $\mu$ , hc. globose, sub-  
globose, on Leguminosae . . . *banosensis* No. 416.  
3111. 3221, colonies  $\frac{1}{2}$ —1 cm., thin, s. 120  
—160  $\mu$ , hc. globose or ovoid, on Legu-  
minosae . . . *gliricidia* No. 417.  
3111. 3221, colonies 2—6 mm., dense, s.  
200  $\mu$ , hc. ovoid, on Leguminosae . . *pterocarpiac* No. 418.  
3111. 3221, colonies  $\frac{1}{2}$ —1 mm., mycelium  
scant, s. 100—200  $\mu$ , hc. sub-globose,  
on Convolvulaceae . . . *ipomoeicola* No. 419.  
3111. 5222, s. 300—500  $\mu$ , attenuate, hc.  
ovoid, sub-globose, on Convolvulaceae *decidua* No. 420.  
3111. 5223, s. 920  $\mu$ , hc. ovoid or globose,  
on unknown host . . . *effusa* No. 421.  
3111. 4333, colonies 4—8 mm., s. 500—  
600  $\mu$ , hc. ovoid, sub-globose, 10—12  $\mu$ ,  
on Moraceae . . . *ficium* No. 422.

3111. 4222, mycelium crooked, s. 400—450  $\mu$ , around the perithecium, hc. subglobose, ovoid, or crenate, on Apocynaceae . . . . . *funtumiae* No. 423.
3111. 3213, s. 200—770  $\mu$ , hc. ovoid, bent. 7  $\approx$  14  $\mu$ , on Apocynaceae . . . . . *beebei* No. 424.
3111. 3223, colonies 3—8 mm., s. 300—650  $\mu$ , hc. ovoid, not bent, on Apocynaceae . . . . . *amboinensis* No. 425.
3111. 4222, colonies 2—8 mm., mycelium crooked, s. 400  $\mu$ , hc. ovoid-globose, on Gesneriaceae . . . . . *gesneriae* No. 426.
3111. 4232, colonies 1—4 mm., s. 250—350  $\mu$ , hc. globose-ovoid, on Sapindaceae . . . . . *parenchymatica* No. 427.
3111. 4232, s. 250—350  $\mu$ , ch. globose-ovoid, on Bignoniaceae . . . . . *lanceolato-setosa* No. 428.
3111. 3222, colonies 3—8 mm., s. 275—500  $\mu$ , hc. ovoid, on Sapindaceae . . . . . *paulliniae* No. 429.
3111. 5221, colonies adherent, s. 250—300  $\mu$ , hc. broadly ovoid, on Santalaceae . . . . . *polytricha* No. 430.
3111. 5221, . . . . . *polytricha* var. *anacardiaceae* No. 431.
3111. 42-2, . . . . . *polytricha* var. *paropsiae* No. 432.
3111. 4221, colonies 2—3 mm., s. 250—300  $\mu$ , hc. ovoid-globose, on Hippocrateaceae . . . . . *montagnei* No. 433.
3111. 3121, colonies 1—4 mm., s. 200—300  $\mu$ , twisted, hc. globose, ovoid, pyriform, on Meliaceae . . . . . *guareicola* No. 434.
3111. 4223, colonies 2—5 mm., dense, s. 500—800  $\mu$ , hc. clavate, disks present, on Meliaceae . . . . . *trichiliicola* No. 435.
3111. 4222, colonies 2—5 mm., mycelium loose, s. 400  $\mu$ , hc. pyriform to globose, on Sapotaceae . . . . . *dipholidis* No. 436.
3111. 3223, colonies 2—3 cm., s. 350—650  $\mu$ , hc. ovoid, on Menispermaceae . . . . . *banguiensis* No. 437.
3111. 6332, colonies 3—4 mm., s. 400—500  $\mu$ , hc. ovoid, large, 30—32  $\approx$  15  $\mu$ , on unknown host . . . . . *thollonis* No. 438.
3111. 3222, colonies 2—5 mm., mycelium crooked, s. 300—400  $\mu$ , hc. ovoid, on Apocynaceae . . . . . *trachelospermae* No. 439.
3111. 3221, colonies  $\frac{1}{4}$ — $\frac{1}{2}$  mm., s. 250—300  $\mu$ , hc. ovoid, on Rubiaceae . . . . . *mitchellae* No. 440.

3111. 2221, colonies 1—4 mm., no disease spot, s. 250  $\mu$ , only at base of perithecium, hc. ovoid, on Euphorbiaceae . . . *jatrophae* No. 441.
3111. 3221, colonies 1—3 mm., s. 200—250  $\mu$ , distinctly parasitic, hc. oblong, on Euphorbiaceae . . . . . *morbosa* No. 442.
3111. 3211, colonies 2—5 mm., s. 150—200  $\mu$ , hc. ovoid, on Oleaceae . . . . . *linocierae* No. 443.
3111. 4331, colonies 2—4 mm., s. 240—300  $\mu$ , hc. ovoid, clavate, or curved, on Oleaceae . . . . . *oleicola* No. 444.
3111. 2222, colonies 1—4 mm., s. 200—320  $\mu$ , hc. cylindrical, on Asclepiadaceae *perpusilla* No. 445.
3111. 3222, hc. ovoid, strongly antrorse, on Asclepiadaceae . . . . . *perpusilla* var. *congoensis* No. 446.
3111. 3222, colonies 4—8 mm., s. 240—350  $\mu$ , often sub-crenate, hc. oblong-ovate, on Ochnaceae . . . . . *ochnae* No. 447.
3111. 4233, s. 250—750  $\mu$ , hc. clavate, 20—30  $\approx$  7—12  $\mu$ , on Icacinaceae . . . *villaresiicola* No. 448.
3111. 4232, colonies 3—8 mm., s. 200—300  $\mu$ , hc. clavate, on Simarubaceae . . *falcatiseta* var. *alternipes* No. 449.
3111. 4221, colonies 1—3 mm., very dense, s. 200—250  $\mu$ , hc. clavate, on Pittosporaceae . . . . . *elmeri* No. 450.
3111. 3221, s. 180  $\mu$ , hc. clavate, on Apocynaceae . . . . . *alstoniae* No. 451.
3111. 4232, colonies 3—7 mm., hc. clavate, on Phytolaccaceae . . . . . *molfinoi* No. 452.
3111. 4221, colonies 2—5 mm., s. 250—300  $\mu$ , hc. sub-clavate, on Moraceae . . . *eriophora* No. 453.
3111. 4331, s. 250—300  $\mu$ , hc. clavate, on Aristolochiaceae . . . . . *atricapilla* No. 454.
3111. 3221, colonies 2—3 mm., s. 230  $\mu$ , hc. clavate to irregular, on Aristolochiaceae . . . . . *aristolochiicola* No. 455.
3111. 4222, s. 300—425  $\mu$ , hc. ovate-oblong, on Rubiaceae . . . . . *mitragynes* No. 456.
3111. 4332, colonies 5—15 cm., s. 300—400  $\mu$ , hc. ovate-oblong, crowded, on Loganiaceae . . . . . *fagraeae* No. 457.
3111. 4223, colonies 2—10 mm., not strongly parasitic, no disk, s. 250—1000  $\mu$ , hc. cylindrical-clavate, on Meliaceae . . . *guareae* No. 458.

3111. 4222, s. 150—320  $\mu$ , hc. cylindrical, sub-clavate, on Combretaceae . . . . . *pelliculosa* No. 459.
3111. 4224, colonies 4—15 mm., s. —1100  $\mu$ , hc. cylindrical, 20  $\approx$  10  $\mu$ , on Rutaceae *pilocarpi* No. 460.
3111. 5223, colonies 3—8 mm., s. 600—800  $\mu$ , hc. oblong, on Anonaceae . . . *borneensis* No. 461.
3111. 4232, colonies 3—6 mm., s. 300—500  $\mu$ , hc. cylindrical, on unknown fruit *cylindripoda* No. 462.
3111. 4232, colonies 2—5 mm., s. 350—420  $\mu$ , hc. cylindrical, on Verbenaceae *durantae* No. 463.
3111. 3222, colonies 2—10 mm., s. 174—420  $\mu$ , hc. cylindrical, on Leguminosae *bataanensis* No. 464.
3111. 3222, colonies loose, 3—10 mm., s. 300—350  $\mu$ , hc. cylindrical, on Lauraceae . . . . . *ocoteicola* No. 465.
- He. irregular
3111. 5222, s. 250—325  $\mu$ , numerous, hc. elongate, truncate, lobed or crenate, not adherent, on Anacardiaceae . . . *irradians* No. 466.
3111. 4231, colonies 3—4 mm., s. 140—240  $\mu$ , hc. ovate, uncinata or angled, on Anacardiaceae . . . . . *loxostylidis* No. 467.
3111. 3223, colonies 2—8 cm., s. 500—800  $\mu$ , hc. globose or lobed, on Cyperaceae *intricata* No. 468.
3111. 3223, on Velloziaceae . . . . . *intricata* var. *major* No. 469.
3111. 3223, colonies 5—15 mm., s. 600—750  $\mu$ , hc. lobed or globose, on Rubiaceae *ixorae* No. 470.
3111. 3222, s. 300  $\mu$ , hc. clavate to lobed, recurved, on Monimiaceae . . . . . *mollinediae* No. 471.
3111. 4223, colonies 1—6 mm., s. 280—800  $\mu$ , hc. ovoid-pyriform, lobed, on Sapindaceae . . . . . *serjaniae* No. 472.
3111. 4223, on Sapindaceae . . . . . *serjaniae* var. *dentata* No. 473.
3111. 3222, colonies 2—5 mm., s. 350—450  $\mu$ , hc. oblong or lobed, on Sapindaceae . . . . . *otophorae* No. 474.
3111. 4221, s. 200—250  $\mu$ , hc. cylindric or irregular, on Sapindaceae . . . . . *sydowiana* No. 475.
3111. 4223, colonies 2—5 mm., s. 620  $\mu$ , hc. pyriform or angular and irregular, on Liliaceae . . . . . *gregoriana* No. 476.
3111. 4222, colonies 1—3 mm., s. 500  $\mu$ , hc. pyriform or sometimes lobed, on Piperaceae . . . . . *stenospora* No. 477.



3111. 4222, colonies 3—10 mm., mycelium straight, s. 350—400  $\mu$ , hc. clavate, often angular, on Apocynaceae . . . . . *laevigata* No. 478.
3111. 3221, colonies 3—5 mm., s. 200—300  $\mu$ , hc. clavate, angular, on Compositae . . . . . *boninensis* No. 479.
3111. 3221, colonies 2—4 mm., s. 175—250  $\mu$ , hc. clavate or irregular, on Rubiaceae . . . . . *palawanensis* No. 480.
3111. 4233, colonies 5—10 mm., s. 800—1000  $\mu$ , hc. ovate, elongate or irregular, strongly parasitic, on Meliaceae . . . . . *parasitica* No. 481.
3111. 4233, s. —540  $\mu$ , mycelium crooked, hc. ovate, oblong or irregular, on Cyperaceae . . . . . *italica* No. 482.
3111. 5232, colonies 1—5 mm., mycelium sinuous, s. 250—350  $\mu$ , hc. sub-cylindrical to lobed, on Meliaceae . . . . . *sinuosa* No. 483.
3111. 3222, colonies 1—3 mm., loose, s. 270—310  $\mu$ , hc. cylindrical to irregular, on Gramineae . . . . . *chaetochloae* No. 484.
3111. 4222, colonies 1—4 mm., dense to crustose, s. 360  $\mu$ , hc. irregular, on Gramineae . . . . . *substenospora* No. 485.
3111. 6342, colonies 5—10 mm., s. 300—600  $\mu$ , hc. tortuose, distant, lobed, on Hamamelidaceae . . . . . *torta* No. 486.
3111. 5322, colonies 3—10 mm., dense, s. 180—350  $\mu$ , hc. irregular, angular, or lobed, 22—29  $\mu$ , on Euphorbiaceae . . . . . *macarangae* No. 487.
3111. 4222, colonies dense, crustose, s. 350—415  $\mu$ , hc. very irregular, on Euphorbiaceae . . . . . *hippomaneae* No. 488.
3111. 3222, colonies 1—3 mm., s. 300—500  $\mu$ , hc. strongly lobed, on Piperaceae . . . . . *piperina* No. 489.
3111. 3222, colonies 5—10 mm., not dense, s. 300—500  $\mu$ , hc. lobed, on Euphorbiaceae . . . . . *excoecariae* No. 490.
3111. 4232, colonies 2—5 mm., s. 500  $\mu$ , hc. tortuose or lobed, long stalked, on Cyperaceae . . . . . *uleana* No. 491.
3111. 5232, colonies 4—10 mm., s. 400—500  $\mu$ , hc. sub-lobed, on Lauraceae . . . . . *cryptocaryae* No. 492.
3111. 5222, s. —400  $\mu$ , hc. irregular, usually bent, on Leguminosae . . . . . *rudolphiae* No. 493.

3111. 4232, colonies 1—2 mm., s. 280—  
400  $\mu$ , hc. lobed, on Anacardiaceae . . . *rhois* No. 494.  
3111. 4221, colonies 1—3 mm., mycelium  
irregular, s. 265  $\mu$ , hc. very irregular,  
on Solanaceae . . . . . *capsicola* No. 495.  
3111. 4231, colonies 1—2 mm., s. 100—  
120  $\mu$ , hc. lobed, on leaves of trees . . . *acanthopoda* No. 496.  
3111. 423—, colonies —15 mm., hc. lobed,  
on Cannaceae . . . . . *velutina* No. 497.  
3111. 6323, s. 500—750  $\mu$ , on Lauraceae . . . *setulifera* No. 498.  
3111. 3222. s. acute, 275—400  $\mu$ , hc. often  
lobed or angular, on Lauraceae . . . *acutisetula* No. 499.

No. 409. *Meliola psidii* Fries, Linnaea 5: 549. 1830.

*Meliola moerenhoutiana* Mont. pro parte.

On Myrtaceae: Psidium.

Type locality: Cuba.

Distribution: Cuba 154; Brazil 257, 258, 190; Surinam 83, 154; Paraguay 254a; Ecuador 83, 162; Porto Rico 57, 261, 29; Costa Rica 277a; Nicaragua 254; Dominica 29d; Amazon 334, 101, Santo Domingo 331a.

Citations: 154\*, 257, 258\*, 83\*, 267, 230a.

Specimens: Syd., Fungi Exot. Exs. 28, Ule, Myc. Bras. 62.

New records: On Psidium guayava. Costa Rica, Las Mercedes, July 14, 1923, 492, Port Limon, Aug. 10, 1923, 866, Siquirres, July 31, 1923, 674; Panama, Ft. Davis, Mt. Hope, old road, Sept. 25, 1924, 813, Empire, Oct. 8, 1924, 1140; Trinidad, St. Augustine, Aug. 13, 1922, 831, Cumuto, Aug. 16, 1922, 942; British Guiana, Coverden, Aug. 4, 1922, 723, Rockstone, July 17, 1922, 483.

Sydow (277a) remarks this is a synonym of *Sphaeria trichostoma* Kze. in Weigelt exs. 1827 and that perhaps the Kunze name has priority.

No. 410. *Meliola ardisiae* Sydow, H., Leaf. Philippine Bot. 9: 3116, 1925.

On Myrsinaceae: Ardisia.

Type locality: Sorsogon, Philippines 17327.

Specimen: the type.

No. 411. *Meliola delicatula* Spegazzini, An. Soc. Cient., Argentina 26: no. 63, 1888.

On Myrsinaceae: Myrsine 241, 83. On Bignoniaceae: Tecoma 313.

Type locality: Paraguay 3985, on Myrsinaceae.

Distribution: Paraguay 241, 83; Brazil 313, 184.

Citations: 83\*, 263\*.

Specimen: the type.

No. 412. *Meliola zigzag* Berkeley & Curtis, in Berkeley, Jour. Linn. Soc.

(London), Bot. 10: 392. 1869.

On Rubiaceae: 254. On Lauraceae: Cinnamomum 12, 307. On Meliaceae: Cabralea 313.

Type locality: Cuba, Fungi Cubenses 882, on Lauraceae.

Distribution: Cuba 12, 83, 313, 254; Brazil 313; India 307.

Citation: 83\*.

Specimens: the type. Berkeley 479.

The original description seems to call for perithecial setae but Gaillard mentions none.

No. 413. *Meliola leptospora* Gaillard, Le Gen. Mel. 87: 1892.

On unknown host.

Type locality: Congo, Africa, Thollon 1207.

Citation: 83\*.

Specimen: the type.

No. 414. *Meliola brasiliensis* Spegazzini, An. Soc. Cient., Argentina, 12: No. 116. 1881.

On Anacardiaceae: Schinus 184; Leandrus 184. On Sapindaceae: Paulinia 184. On Myrtaceae: Eugenia 184. On Malpighiaceae: Byrsonima 184. On Bignoniaceae: 282, 184. On Sapotaceae: 166.

Type locality: Apiaty, Brazil, on Bignoniaceae.

Distribution: Brazil 235, 83, 166, 184, 242.

Citations: 83\*, 263\*, 215\*.

Specimen: the type.

No. 415. *Meliola mapaniae* Yates, Philippine Jour. Sci., C. Bot., 12: 367. 1917.

On Cyperaceae: Mapania.

Type locality: Samar, Philippines, Bur. Sci. 24640 Ramos.

Specimen: the type.

This appears to be quite distinct from *M. argentina* in many ways.

No. 416. *Meliola banosensis* Sydow, H. & P., Annal. Mycol. 14: 356. 1916.

On Leguminosae: Pueraria.

Type locality: Philippines, Baker 4016.

Citation: 301.

Specimen: Baker, Fungi Mal. 250.

No. 417. *Meliola gliricidia* Sydow, H. & P., Annal. Mycol. 12: 550. 1914.

On Leguminosae: Gliricidia.

Type locality: Rizal, Philippines, Bur. Sci. 21929 Ramos.

Specimen: Phil. Bur. Sci. 21929.

No. 418. *Meliola pterocarpiae* Yates, Philippine Jour. Sci., C. Bot., 13: 235. 1918.

*Meliola bauhiniae* Yates, Philippine Jour. Sci., C. Bot., 13: 365. 1918.

On Leguminosae: Pterocarpus, Bauhinia.

Type locality: British North Borneo, Yates 102. Fig. 73.

Specimens: the type, the type of *M. bauhiniae*.

No. 419. *Meliola ipomoeicola* Beeli, Bul. Jard. Bot., Bruxelles 7: 96. 1920.

On Convolvulaceae: Ipomoea.

Type locality: Congo, Africa, Vanderyst 2061.

Specimen: the type.

- No. 420. *Meliola decidua* Spegazzini, Bol. Acad. Nac. Cient., Cordoba 11: No. 240, 1889.  
On Convolvulaceae (?).  
Type locality: Apiaty, Brazil 2344.  
Citation: 263\*.  
Specimen: the type.
- No. 421. *Meliola effusa* Gaillard, Le Gen. Mel. 91. 1892.  
*Meliola moerenhoutiana* Montagne, in Herb. Mus. Paris *pro parte*.  
On unknown host.  
Type locality: Paramaribo, Koegel 596.  
Citation: 83\*.
- No. 422. *Meliola ficium* Yates, Philippine Jour. Sci., C. Bot., 13: 368. 1918.  
On Moraceae: Ficus.  
Type locality: Luzon, Philippines, Bur. Sci. 28002.  
Specimen: the type.  
The setae arise from well developed hypothecial disks, spores  $43-47 \approx 18-21 \mu$ .
- No. 423. *Meliola funtumiae* Beeli, Bul. Jard. Bot., Bruxelles, 7: 95. 1920.  
On Apocynaceae: Funtumia.  
Type locality: Congo, Africa, Vanderyst 1621.  
Specimen: the type.
- No. 424 *Meliola beebel* n. sp.  
Colony moderately dense, hypophyllous. Mycelium much branched, nearly straight. Capitate hyphopodia alternate or unilateral, stalk cell usually short,  $3-4 \mu$ , occasionally longer,  $10 \mu$ ; head cell regular, ovoid, about  $7 \approx 14 \mu$ , nearly always bent to approximately at right angle. Mucronate hyphopodia few, narrow.  
Perithecial setae none. Mycelial setae simple, straight or slightly bent, acute,  $200-770 \mu$  long,  $9 \mu$  thick at base, abundant only in the older, central portions. Perithecia small,  $80-110 \mu$ , smooth. Asci evanescent, Spores 4-septate,  $33-36 \approx 11 \mu$ , slightly constricted.  
Group number 3111. 3213. Fig. 74.  
On Apocynaceae: Tabernaemontana sp. British Guiana, Kartabo, July 21, 1922, 506.  
Named in honor of Mr. Wm. Beebe.
- Nr. 425. *Meliola amboinensis* Sydow, H., Philippine Jour. Sci., C. Bot., 21: 133. 1922.  
On Apocynaceae: Aganosma.  
Type locality; Amboina, Reliquiae Robinsonianae 2150.  
Specimen: the type. Fig. 75.
- No. 426. *Meliola gesneriae* Stevens, Ill. Biol. Mono. 2: 47. 1916.  
On Gesneriaceae: Gesneria. On Solanaceae: Cestrum.  
Type locality; Porto Rico, Stevens 7465.  
Citation: 230a.



No. 427. *Meliola parenchymatica* Gaillard, Bull. Soc. Mycol. France 8: 180. 1892.

On Sapindaceae: 83, 4, 184, Sapindus 197, 222, 4, 301, 6. On Vitaceae: Cissus 163. On Leguminosae: Desmodium 197, 4. On Gramineae 10, Rottboellia 197, 4, Panicum 10.

Type locality: Brazil, Ule 375, on Sapindaceae.

Distribution: Brazil 83, 4, 184; Ecuador 163; Philippines 197, 222, 301, 4, 6; Congo, Africa 10.

Citations: 83\*, 267, 5.

Specimens: Baker, Fungi Mal. 365. Phil. Bur. Sci. 482.

No. 428. *Meliola lanceolato-setosa* Sydow, H. & P., Annal. Mycol. 12: 197. 1914.

On Bignoniaceae: Tecoma 9, Markhamia 295, 288. On Pittosporaceae: Pittosporum 9, 288.

Type locality: German East Africa, on Bignoniaceae. Bot. Inst. Amani 5602.

Specimens: Syd., Fungi Exot. Exs. 248, 249.

No. 429. *Meliola paullinae* Stevens, Ill. Biol. Mono. 2: 45. 1916.

On Sapindaceae: Paullinia. On Flacourtiaceae: Casearia. On Guttiferae: Mamea.

Type locality: Porto Rico, Stevens 1149.

Citations: 261\*, 29, 230a.

New record: On Paullinia. Trinidad, Panama, Feb. 1923; collected by Dr. Nowell. A white wooly parasite was overgrowing the *Meliola*. This specimen differs from the type specimen only in being hypophyllous as well as epiphyllous.

No. 430. *Meliola polytricha* Kalchbrenner & Cooke, in Cooke, Grev. 8: 72. 1879.

On Myrsinaceae: Ardisia 6. On Pittosporaceae: Pittosporum 45. On Santalaceae: Osyris 35, 83, 45. On Cunoniaceae: Cunonia 35, 213, 83, 207. On Anacardiaceae: Schinus 241, 83, 245, 194, Duvaua 244. On Solanaceae: Solanum 163, 84. On Sapindaceae 166. On Loranthaceae: Loranthus 96. On Leguminosae 184. On Melastomataceae: Leandra 184. On Plantaginaceae: Plantago 184.

Type locality: Natal, South Africa, on Osyris.

Distribution: South Africa 35, 83, 45, 96; Portugal 213; Paraguay 83, 207, 241; Brazil 166, 184, 245, 194; Ecuador 84, 163; Argentine 244; Philippines 6, 261\*.

Citations: 84\*, 153, 45\*, 261\*, 2.

Specimens: Roum., Fungi Sel. Gal. Exs. 5943, Baker, Fungi Mal. 254, Rehm, Ascom. Fasc. 46. Union So. Africa 8996 (compared with the type). Phil. Bur. Sci. 254.

The description by Doidge taken from Woods duplicate of the type material differs from that of Gaillard in measurements.

The specimen reported by Spegazzini (241) was later recognized as *M. lanigera* (255).

No. 431. *Meliola polytricha* Kalchbrenner & Cooke form *anacardiaceae* Arnaud, Thesis. 1918.

On Anacardiaceae: Lithraea.

Citation: 2\*.

This is possibly identical with *M. polytricha* (K. & C.) var. *flexuosisetata* Speg.

No. 432. *Meliola polytricha* var. *paropsiae* Beeli Bull. Soc. Roy. Bot. Belg. 60: 99. 1927.

On Passifloraceae: Paropsia.

Group number 3111. 42—2.

Type locality: Congo, Vanderyst 9777.

Citation: 10a\*.

Specimen: the type.

No. 433. *Meliola montagnei* Patouillard, in Gaillard, Le Gen. Mel., 85. 1892.

On Hippocrateaceae: Salacia.

Type locality: France.

Citation: 83\*.

Previously reported as *Meliola moehrenhoutiana* (147), and as *Meliola amphitricha* Fr., *D. salaciae undulatae* (20).

No. 434. *Meliola guareicola* Stevens, Ill. Biol. Mono. 2: 53. 1916.

On Meliaceae: Guarea.

Type locality: Porto Rico, Stevens 8166.

Distribution: Porto Rico 261; Dominica 29e.

Citations: 29, 230 a.

No. 435. *Meliola trichiliicola* Spegazzini, An. Mus. Nac., Buenos Aires 32: 366. 1924.

On Meliaceae: Trichilia.

Type locality: Argentine.

This differs from *M. trichiliae* Beeli and *M. guareae* Speg. in its hypothecial disk and smaller perithecia.

No. 436. *Meliola dipholidis* Stevens, Ill. Biol. Mono. 2: 44. 1926.

On Sapotaceae: Dipholis.

Type locality: Porto Rico, Stevens 8549.

Citation: 230a.

No. 437. *Meliola banguiensis* Yates, Philippine Jour. Sci., C. Bot., 13: 365. 1918.

On Menispermaceae.

Type locality: Philippines, Bur. Sci. 27696 Ramos.

Specimen: the type.

No. 438. *Meliola thollonis* Gaillard, Le Gen. Mel. 88, 1892.

On unknown host.

Type locality: Africa, Thollon 23.

Citation: 84\*.

No. 439. *Meliola trachelospermae* Yates, Philippine Jour. Sci., C. Bot. 13: 370. 1918.

On Apocynaceae; *Trachelospermum*.

Type locality: Luzon, Philippines, Bur. Sci. 29813, Ramos & Edaño.

Specimen: the type.

No. 440. *Meliola mitchellae* Cooke, Grev. 6: 143. 1878.

On Rubiaceae: *Mitchella*.

Type locality: Florida, Rav. F. Am. 88.

Distribution: Southern U. S. A. 33, 134, 332, 83, 64, 254; Argentine 235; Brazil 313.

Citations: 33\*, 83\*, 332.

Specimens: Rav., Fungi Amer. 88, Ellis & Everhart, N. Amer. Fungi 1294.

No. 441. *Meliola jatrophae* Stevens, Ill. Biol. Mono. 2: 48. 1916.

On Euphorbiaceae: *Jatropha*.

Type locality: Porto Rico, Stevens 7873.

Citation: 215.

No. 442. *Meliola morbosa* Stevens, Bish. Mus. Bul. 19: 38. 1925.

On Euphorbiaceae: *Claoxylon*.

Type locality: Kauai, Hawaiian Islands, Stevens 452.

Citation: 264\*.

No. 443. *Meliola linocierae* Sydow, H. & P., Annal. Mycol. 12: 550. 1914.

On Oleaceae: *Linociera*.

Type locality: Rizal, Philippines, Bur. Sci. 254 Ramos.

Specimen: Syd., Fungi Exot. Exs. 375.

No. 444. *Meliola oleicola* Doidge, Both. 1: 73. 1922.

On Oleaceae: *Olea*.

Type locality: Natal, South Africa, Doidge 11557.

Citation: 56\*.

Specimens: Union So. Afr. 9103, 10937, 8785, 12364, 14218.

This appears to differ slightly from *M. linocierae* in length of setae and size of spores. It was reported earlier as *M. amphitricha* (45).

No. 445. *Meliola perpusilla* Sydow, H. & P., Philippine Jour. Sci., C. Bot., 8: 480. 1913.

On Asclepiadaceae: *Tylophora*.

Type locality: Luzon, Philippines, Bur. Sci. 20257 McGregor.

Citations: 4, 222, 301.

Specimen: Baker, Fungi Mal. 366.

No. 446. *Meliola perpusilla* Sydow, H. & P. var. *congoensis* Beeli, Bul. Jard. Bot., Bruxellès 7: 97. 1920.

On Asclepiadaceae.

Type locality: Congo, Africa, Vanderyst 2744.

Specimen: the type.

No. 447. *Meliola ochnae* Doidge, Trans. Roy. Soc. So. Africa 8: 141. 1920.

On Ochnaceae: Ochna.

Type locality: Natal, South Africa, Doidge 11567.

Citation: 51\*.

Specimen: the type.

No. 448. *Meliola villaresiicola* Spegazzini, An. Mus. Nac., Buenos Aires, 32: 379. 1924.

On Icacinaceae: Villaresia.

Type locality: Argentine.

No. 449. *Meliola falcatiseta* Spegazzini var. *alternipes* Spegazzini, An. Mus. Nac., Buenos Aires, 32: 374. 1924.

On Simarubaceae: Castela.

Type locality: Argentine.

New record: On Simarubaceae: Picramnia antidesma. Costa Rica, El Alto, July 6, 1924, 242a.

No. 450. *Meliola elmeri* Sydow, H., Leaf. Philippine Bot. 5: 1537. 1912.

On Pittosporaceae: Pittosporum.

Type locality: Palawan, Philippines 12707.

Citations: 4, 301, 275.

Specimens: the type, Phil. Bur. Sci. 12707, Syd., Fungi Exot. Exs. 371.

*Meliola amphitricha* (Fries) Fries var. *pungens* Patouillard, Bul. Soc. Mycol. France 34: 89. 1918, also described on Pittosporum from Madagascar may well be identical with this species.

New record: On Pittosporum dasycaulon. India, Ghat Forests, Oct. 1919. No. 1983. Leg. Sedgwick.

Citation: 264a.

No. 451. *Meliola alstoniae* Koorders, Verhandel. K. Akad. Wetensch. Amsterdam 13: 170. 1907.

On Apocynaceae: Alstonia.

Type locality: Asia.

Distribution: Asia 129; Los Baños, Philippines, 301, 218, 202, 4, 5.

Citations: 202, 301.

Specimens: Baker, Fungi Mal. 360, Phil. Bur. Sci. 12825.

Variation in spore septation is reported as 1—4, usually 4.

No. 452. *Meliola molfinoi* Spegazzini, An. Mus. Nac., Buenos Aires, 32: 381. 1924.

On Phytolaccaceae: Achatocarpus.

Type locality: Paraguay, Balansa 2745.

This was incorrectly reported as *M. araliae* (241).

No. 453. *Meliola eriophora* Spegazzini, An. Soc. Cient. Argentina 26: no. 62. 1888.

On Moraceae: Ficus 241, 83, 255. On Nyctaginaceae: Pisonia 251.

Type locality: Paraguay.

Distribution: Paraguay 241, 83; Argentine 255; Brazil 251.



Citation: 263\*.

Specimen: the type.

Spores larger than those of the original description. 53, are reported by Gaillard (83) and Spegazzini (255).

No. 454. *Meliola atricapilla* Starbäck, Ark. Bot. 2: 9. 1904.

On Aristolochiaceae: Aristolochia 311, 313, 195, 206.

Type locality: Paraguay.

Distribution: Paraguay 258, 313, 195, 311.

Citations: 267, 258\*.

Specimen: Rick, Fungi aust.-amer. 324.

No. 455. *Meliola aristolochiicola* n. sp.

Colonies amphigenous, more commonly epiphyllous, densely black, circular, 2—3 mm. in diameter, crustose. Mycelium coarse, 7—8  $\mu$ . Capitate hyphopodia alternate. Stalk cell short, 3—7  $\mu$ ; head cell 14—25  $\mu$   $\cong$  14  $\mu$ , obovate, clavate or irregularly cylindrical. Mucronate hyphopodia ampulliform.

Perithecial setae none. Mycelial setae 230  $\mu$   $\cong$  9  $\mu$ , simple, black, acute. Perithecia globose, smooth, 150—170  $\mu$  in diameter. Asci evanescent. Spores 4-septate, 43  $\mu$   $\cong$  14  $\mu$ .

Group number 3111. 3221. Fig. 76.

On Aristolochiaceae: Aristolochia maxima. Panama, Tapia, Aug. 15, 1923, 1005.

No. 456. *Meliola mitragynes* Sydow, H. & P., Philippine Jour. Sci., C. Bot., 8: 478. 1913.

On Rubiaceae: Mitragnyne.

Type locality: Luzon, Philippines, Bur. Sci. 20253 McGregor.

Citation: 353.

Specimen: Phil. Bur. Sci. 25900.

No. 457. *Meliola fagraeae* Sydow, H. & P., Annal. Mycol. 12: 549. 1914.

On Loganiaceae: Fagraea.

Type locality: Camarines, Philippines, Bur. Sci. 22222 Ramos.

Citations: 353, 271.

Specimen: the type.

No. 458. *Meliola guareae* Spegazzini, An. Mus. Nac., Buenos Aires, 23: 42. 1912.

On Meliaceae: Guarea.

Type locality: Argentine.

Distribution: Argentine 249, 255; Porto Rico 261.

Citations: 263\*, 230a.

Specimen: the type.

No. 459. *Meliola pelliculosa* Sydow, H. & P., Philippine Jour. Sci., C. Bot., 8: 480. 1913.

On Combretaceae: Lumnitzeria. On Labiatae 9.

Type locality: Philippines, on Lumnitzeria.

Distribution: Philippines 294, 4, 288; Amboina 271; Congo Africa 10.  
Specimen: Syd., Fungi Exot. Exs. 252.

No. 460. *Meliola pilocarpi* Stevens, III. Biol. Mono. 2: 41. 1916.

On Rutaceae: *Pilocarpus*.

Type locality: Porto Rico, Stevens 7080.

New record: On *Zanthoxylum* (?). Panama, Barro Colorado, Sept. 10, 1924, 424.

Citation 230a.

No. 461. *Meliola borneensis* Sydow, H., Annal. Mycol. 21: 90. 1923.

On Anonaceae: *Uvaria*.

Type locality: Borneo, Ramos 2138.

Specimen: the type.

No. 462. *Meliola cylindripoda* Doidge, Trans. Roy. Soc. So. Africa 8: 138. 1920.

On fruit unknown.

Type locality: Natal, South Africa, Doidge M. 11596.

Citation: 51\*.

No. 463. *Meliola durantae* Gaillard, Bul. Soc. Mycol., France, 8: 181. 1892.

On Verbenaceae: *Duranta*.

Type locality: Quito, Ecuador.

Citations: 84\*, 163.

Specimen: Rehm, Ascom. exs. fasc. 22.

No. 464. *Meliola bataanensis* Sydow, H. & P., Annal. Mycol. 12: 551. 1914.

On Leguminosae: *Millettia*.

Type locality: Philippines, Merrill 9106.

Citation: 293.

Specimens: the type. Phil. Bur. Sci. 26741.

Yates (354) reports, on what he regards as this species, that the setae are 500—700  $\mu$  and occasionally forked, which would give a formula 311/31. 3223.

No. 465. *Meliola ocoteicola* Stevens, III. Biol. Mono. 2: 45. 1916.

On Lauraceae: *Ocotea*. On Sapotaceae: *Chrysophyllum*.

Type locality: Porto Rico, Stevens 7560.

Distribution: Porto Rico 261; Dominica 72, 29c.

Citations: 261\*, 72, 230a.

No. 466. *Meliola irradians* Gaillard, Le Gen. Mel. 92. 1892.

*Asteroma corallina* Montagne in Herb. *pro parte*.

On Anacardiaceae: *Mauria* 83. On Euphorbiaceae: *Alchornea* 83, 184.

Type locality: Chile, Bertero 1087.

Distribution: Chile 83; Brazil 184.

Citation: 83\*.

Specimen: Ule, Myc. Bras. 916a.

No. 467. *Meliola loxostylidis* Doidge, Trans. Roy. Soc. So. Africa 8: 114. 1920.

On Anacardiaceae: *Loxostylis*.

Type locality: Natal, South Africa, Doidge 10921.

Citation: 48\*.

Specimen: Union So. Afr. 9026.

No. 468. *Meliola intricata* Sydow, H. & P., Philippine Jour. Sci., C. Bot., 8: 268. 1913.

On Cyperaceae: Scirpus.

Type locality: Luzon, Philippines, Merrill 7152.

Citations: 4, 5, 301.

Specimen: Phi. Bur. Sci. 23751.

No. 469. *Meliola intricata* Sydow, H. & P. var. *major* Beeli, Bul. Jard. Bot., Bruxelles, 7: 96. 1920.

On Velloziaceae: Barbacenia.

Type locality: Congo, Africa, Vanderyst 2689.

No. 470. *Meliola ixorae* Yates, Philippine Jour. Sci., C. Bot., 12: 365. 1917.

On Rubiaceae: Ixora.

Type locality: Luzon, Philippines, Bur. Sci. 25841 Yates.

Citation: 275.

Specimen: Phil. Bur. Sci. 45841.

Though the original description refers to basal perithecial setae, study of Philippine material (45841 Yates) convinces me that these setae around the perithecium really arise from the mycelium. They are similar in character to the usual mycelial setae, but are somewhat shorter.

No. 471. *Meliola mollinediae* Theissen, Brot. 12: 24. 1914.

On Monimiaceae: Mollinedia.

Type locality: Brazil.

Citation: 320\*.

No. 472. *Meliola serjaniae* Stevens, Ill. Biol. Mono. 2: 44. 1916.

On Sapindaceae: Serjania.

Type locality: Porto Rico, Stevens 425.

Distribution: Porto Rico 261; Costa Rica 277a.

Citation: 261\*.

No. 473. *Meliola serjaniae* Stevens var. *dentata* n. var.

This agrees in all characters except those of the setae with those of the Porto Rican specimens; the setae are however nearly always dentate. The occurrence of this identical variation in the two closely related forms, *M. serjaniae* and *M. paullinae* is noteworthy.

Citation: 230a.

On Serjania triquetra. Panama, Juan Diaz, Aug. 12, 1923, 1243.

No. 474. *Meliola otophorae* Yates, Philippine Jour. Sci., C. Bot., 13: 235. 1918.

On Sapindaceae: Otophora.

Type locality: British North Borneo.

This appears to be very near to *M. paullinae*, possibly differing in its alternate branching.

No. 475. *Meliola sydowiana* Stevens & Larson n. sp.

Colony amphigenous, irregular, 1—12 mm. in diameter. Mycelium a dense network of crooked threads, brown, branches usually opposite, 7.5  $\mu$  in diameter. Cells 25—37  $\mu$  long. Spot none. Capitate hyphopodia alternate or irregular, not opposite, cylindrical to angular or 2—4 lobed, often bent; stalk cell short 3—4  $\mu$ ; head cell 7—12  $\cong$  10—17  $\mu$ . Mucronate hyphopodia ampulliform, 7  $\cong$  11  $\mu$ , few, light-brown, drawn out into a long neck.

Perithecial setae none. Mycelial setae numerous, straight or very slightly curved, 7—8  $\mu$  wide, 6  $\mu$  thick at base, 200—250  $\mu$  long, opaque, tip acute. Perithecia globose, 150—170  $\mu$ , rough with rounded protuberances. Ostiole none. Asci evanescent. Spores 4-septate, 39—43  $\cong$  10—15  $\mu$ , somewhat constricted at septa, obtuse.

Group number 3111. 4221. Fig. 77.

Distributed in Phil. Bur. Sci. 12499, as *M. amphitricha*.

On Sapindaceae: *Sapindus saponaria*. Laguna, Luzon. P. I. 1910.

Although this is closely related to several other species of the formula 3111. in which the mycelial setae are acute, differences noted in the shape of the capitate hyphopodia and the length of the setae seem sufficient to justify the erection of a new species. The related species are *I. araliae*, *M. parenchymatica* and *M. paullinae*, with globose or ovoid hyphopodia and setae much longer than in *M. sydowiana*; *M. thouinia* with cylindrical hyphopodia and setae 300—400  $\mu$  long, and *M. polytricha*, *M. serjaniae* and *M. otophorae* with ovoid, oblong or lobed hyphopodia, but setae longer than those of this species, 250—300  $\mu$  and 360—450  $\mu$ .

No. 476. *Meliola gregoriana* Stevens, Bish. Mus. Bul. 19: 39. 1925.

On Liliaceae: *Dianella*.

Type locality: Oahu, Hawaiian Islands, Forbes-Stevens 2306.

No. 477. *Meliola stenospora* Winter, Hedw. 25: 97. 1886.

On Piperaceae: 348, 349, 83, 4, Piper 220, 198, 4. On Borraginaceae: *Ehretia* 4, 197. On Loganiaceae: *Strychnos* 8. On Saxifragaceae: *Itea* 83.

Type locality: St. Thomas, Africa.

Distribution: Africa 348, 349, 83, 220, 4; Brazil 184; India 8; Philippines 198, 197, 4, 196.

Citations: 348\*, 83\*, 8\*, 5.

Specimen: Phil. Bur. Sci. 770.

No. 478. *Meliola laevigata* Sydow, H. & P., Leaf. Philippine Bot. 5: 1537. 1912.

On Apocynaceae: *Paralstonia*.

Type locality: Palawan, Philippines 12784.

Citations: 292, 4.

Specimen: the type.



No. 479. *Meliola boninensis* Spegazzini, Bol. Acad. Nac. Cient., Cordoba, 26: 372. 1923.

On Compositae (?): *Synanthera* (?).

Type locality: Islas Bonin, Wright, Herb. N. Pacif. Expl. Expedition.

No. 480. *Meliola palawanensis* Sydow, H. & P., Leaf. Philippine Bot. 5: 1539. 1912.

On Rubiaceae: *Morinda*.

Type locality: Palawan, Philippines 13040.

Citation: 4.

Specimen: the type.

No. 481. *Meliola parasitica* n. sp.

Colonies dense, black, irregularly circular, 5—10 mm. in diameter, hypophyllous, coincident in size with a diseased spot in the leaf that is visible from both leaf surfaces. Mycelium dark, sinuous, closely matted. Capitate hyphopodia numerous, alternate, stalk cell short, 3—4  $\mu$ ; head cell ovoid to elongate, irregular to slightly lobed, 18  $\approx$  11  $\mu$ . Ampulliform hyphopodia few. Mycelial setae black, straight, acute at tip, long, 800—1000  $\mu$ . Perithecia few, 150—214  $\mu$  in diameter, slightly rough. Asci evanescent. Spores 4-septate, 43—47  $\approx$  14—18  $\mu$ .

Group number 3111. 4233. Fig. 78.

On Meliaceae: *Guarea* sp. British Guiana, Kartabo, July 23, 1922, 625.

The present species is mainly conspicuous for its strongly parasitic character, the spots being of large size and dead, visible from both sides of the leaf. It is usually heavily overgrown by parasites and if so bears but few setae and perithecia. When the parasites are not present the setae are very abundant and perithecia common. Of the three species previously recorded upon *Guarea* two, *M. guareaicola* and *M. guareae* are distinguished from the present form by their setae. *M. platysperma* the remaining form, agrees in formula, but has much larger spores. *M. sinuosa* and *M. leptochaeta* from Africa and the Occident respectively have a formula of 3111, but the former has shorter setae and smaller spores, while the latter differs in general habit and length of setae.

A second *Meliola* of very different character was present on some of these leaves but was undeterminable due to lack of perithecia.

No. 482. *Meliola italica* (Saccardo) n. sp.

*Meliola cyperi* var. *italica* Saccardo, Annal. Mycol. 1: 24. 1903.

Group number 3111. 4233.

On Cyperaceae: *Cladium*.

Type locality: Italy.

Citations: 153, 2\*.

Specimens: the type. Myc. Ital. 1022.

Examination of the type specimen kindly loaned to me by Dr. Trotter shows the setae to be simple, —540  $\mu$  long, the hyphopodia alternate and ovate to oblong and irregular.

No. 483. *Meliola sinuosa* Doidge, Trans. Roy. Soc. So. Africa 5: 735. 1917.

On Meliaceae: Trichilia.

Type locality: Natal, South Africa, Doidge 1783.

Citation: 45\*, 18b.

Specimens: the type. Union So. Afr. 9036.

No. 484. *Meliola chaetochloae* n. sp.

Colony small, 1—3 mm., circular, loose, mostly epiphyllous. Mycelium straight or crooked, rather close. Spot circular, pale, exceeding the size of the colony by 1—2 mm. Capitate hyphopodia alternate. Stalk cell short, 3  $\mu$ ; head cell ovate to cylindrical to slightly irregular, 11  $\cong$  14  $\mu$ . Mucronate hyphopodia ampulliform, opposite or alternate.

Perithecial setae none. Mycelial setae few, 270—310  $\mu$  long, pale at tip, acute. Perithecia globose, smooth, 107—140  $\mu$ . Asci evanescent. Spores 4-septate, 29—32  $\cong$  11—13  $\mu$ , constricted.

Group number 3111. 3222. Fig. 79.

On Gramineae: Chaetochloa sulcata. Ecuador, Terecita, Oct. 30, 1924, 138.

This species differs from *M. panici* in its more pale color throughout, shorter setae, more regular head cells, shape of mucronate hyphopodia, and in parasitic habit. It differs from *M. panicicola* in its shorter setae with acute apices and more regular capitate hyphopodia, also in its parasitic habit. As with *M. panici* the longitudinal strands of mycelium are straight, these across the leaf are crooked.

No. 485. *Meliola substenospora* v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna), Math.-natur. Kl. 118: 317. 1909.

On Gramineae: 9, Phragmites 104, 193, Rottboellia 294, 201, 5, Oplismenus 294, 86.

Type locality: Buitenzorg, Java, on Phragmites.

Distribution: Java 104, 193, 86; Philippines 294, 201, 288, 86; Africa 9.

Citations: 5, 201.

Specimens: Baker, Fungi Mal. 456, 45, Phil. Bur. Sci. 8653, Syd., Fungi Exot. Exs. 382, 173.

No. 486. *Meliola torta* Doidge, Trans. Roy. Soc. So. Africa 5: 726. 1917.

On Hamamelidaceae: Trichocladus.

Type locality: Natal, Africa.

Citation: 45\*.

Specimen: the type.

No. 487. *Meliola macarangae* Sydow, H. & P., Annal. Mycol. 15: 188. 1917.

*Meliola apayaoensis* Yates, Philippine Jour. Sci., C. Bot., 13: 364. 1918.

On Euphorbiaceae: Macaranga.

Type locality: Laguna, Philippines, Bur. Sci. 23786 Ramos.

Citation: 273.

Specimen: Phil. Bur. Sci. 28337, 24045.

No. 488. *Meliola hippomaneae* n. sp.

Colony crustose, dense, epiphyllous. Mycelial branching mostly alternate, regular, thick, 7—8  $\mu$ . Spot pale, slightly exceeding the colony in size. Capitate hyphopodia alternate, crowded. Stalk cell short, 4—7  $\mu$ ; head cell large, very irregular, several angled, 22—25  $\approx$  18—22  $\mu$ . Mucronate hyphopodia ampulliform, 18  $\approx$  7—8  $\mu$ .

Perithecial setae none. Mycelial setae few, black, stiff, simple, acute, 350—415  $\approx$  10—11  $\mu$ . Perithecia globose, smooth, 150  $\mu$ . Asci evanescent. Spores 4-septate, 50  $\approx$  18  $\mu$ .

Group number 3111. 4222. Fig. 80.

On Euphorbiaceae: *Hippomane mancinella*. Panama, Paitilla Pt., Sept. 8. 1924. 375.

The only species described on the Euphorbiaceae that resemble this are *Meliola excoecariae* and *Meliola gymnanthicola*. It differs from the former in colony, size, position, and general colony characters and from the latter in shape of capitate hyphopodia.

No. 489. *Meliola piperina* Sydow, H. & P., Annal. Mycol. 14: 358. 1916.

On Piperaceae: Piper.

Type locality: Los Baños, Philippines, Baker 4046.

Citation: 301.

Specimens: Baker, Fungi Mal. 367. Phil. Bur. Sci. 23749.

No. 490. *Meliola excoecariae* Doidge, Trans. Roy. Soc. So. Africa 8: 139, 1920.

On Euphorbiaceae: *Excoecaria*.

Type locality: Natal, South Africa.

Citation: 51\*.

Specimen: Union So. Afr. 11566.

No. 491. *Meliola uleana* Pazschke, in Gaillard, Le Gen. Mel. 90. 1892.

On Cyperaceae: *Eleocharis*.

Type locality: Brazil, Ule 223.

Citations: 83\*, 166.

No. 492. *Meliola cryptocaryae* Doidge, Trans. Roy. Soc. So. Africa 8: 112, 1920.

On Lauraceae: *Cryptocarya*.

Type locality: Natal, South Africa, von der Byjl N. H. 517.

Citations: 48\*, 51.

Specimen: Union So. Africa 9025 (compared with type).

No. 493. *Meliola rudolphiae* Stevens, Ill. Biol. Mono. 2: 43. 1916.

On Leguminosae: *Rudolphia*.

Type locality: Porto Rico, Stevens 4791.

Citations: 261\*, 230a.

No. 494. *Meliola rhois* Hennings, Bot. Jahrb. (Engler) 17: 523. 1893.

*Meliola rhois* Hennings var. *tenuis* Doidge, Trans. Roy. Soc. So. Africa 5: 734. 1917.

On Anacardiaceae: *Rhus* 88, 45, 18, *Harpophyllum* 45.

Type locality: Brazil.

Distribution: Brazil 88; South Africa 45, 18.

Citation: 45\*.

Specimens: the type, Union So. Afr. 6804, 1239.

The variety *tenuis* was described by Miss Doidge as with more slender, longer cells, and with the capitate hyphopodia more often smooth.

No. 495. *Meliola capsicola* Stevens, Ill. Biol. Mono. 2: 41. 1916.

On Solanaceae: *Capsicum*.

Type locality: Porto Rico, Stevens 7698.

Distribution: Porto Rico 261; Dominica 72, 29c.

Citations: 261\*, 230a.

No. 496. *Meliola acanthopoda* Patouillard, in Patouillard & Lagerheim, Bul. Soc. Mycol., France, 11: 222. 1895.

On leaves of trees.

Type locality: Ecuador.

No. 497. *Meliola velutina* Winter, Hedw. 25: 97. 1886.

On Cannaceae: 349, 83. On Guttiferae: *Symphonia* 21. On Cyperaceae 184.

Type locality: St. Thomas, Africa.

Distribution: Africa 349, 21, 348, 83; Brazil 184.

Citation: 348\*.

No. 498. *Meliola setulifera* (Spegazzini) n. sp.

*Meliola perseae* Stevens forma *setulifera* Spegazzini, Bol. Acad. Nac. Cient., Cordoba, 26: 380. 1923.

On Lauraceae: *Persea*.

Type locality: Florida, U. S. A., Rav. 82.

Specimen: Rav., Fungi Amer. 82 sub *Meliola amphitricha* Fr.

No. 499. *Meliola acutisetula* Sydow, H. & P., Leaf. Philippine Bot. 6: 1921. 1913.

On Lauraceae: *Persea*.

Type locality: Philippines 13312.

Citations: 4, 5.

By typographical error given as *acutisecta* in first publication.

Specimen: the type.

### Leptomeliola and Meliolinopsis.

*Meliolinopsis* Beeli, Bul. Bot. Jard., Bruxelles, 7: 101. 1920.

Beeli defines this genus as having the character of a *Meliola*, but with asci persistent, generally 8-spored and paraphysate.

The type assigned to the genus by Beeli is *M. octospora*. Since this species, however, possesses no hyphopodia it does not agree with the characters as given for the genus by its author and must therefore be excluded from the genus. The same may be said of *M. megalospora* the first species named by Beeli.



*Leptomeliola* v. Höhnelt, Sitzber. K. Akad. Wiss. (Vienna), Math.-natur. Kl. 128: 557. 1919.

v. Höhnelt characterizes this genus as with or without setae, asci persistent, 8-spored, spores spindleform, 4—6 celled with small, almost hyaline, end cells, paraphyses numerous, and often with *Arthrobotryum* as a conidial form. He cites *L. hyalospora* (Lév.) v. Höhnelt as the type of the genus.

The possession of the persistent ascus with more than four spores is a very significant character and well warrants setting these forms possessing them aside as a genus distinct from *Meliola*. The presence of hyphopodia is also important since their absence would throw a species into *Meliolina*.

Ten forms are considered herewith, which, from their descriptions, appear to be of the *Meliolinae* as shown by their mycelium, hyphopodia and spores, but which have 8-spored, persistent asci, and would therefore appear to belong to one of the two genera named in the caption above. Since, however, I have no good, reliable material of any of these forms I do not presume to assign any of them to either genus, but merely list them here under names already used for them.

I deem it extremely probably, however, that many if not all of these 8-spored forms will upon proper study prove to be *Pyrenomyces* parasitic upon *Meliolas*, and that the existing accounts confuse in description the *Meliola* host and the 8 spored parasite; that a relation here exists quite like that shown by *Meliolina paullinae*, *M. irenicolum*, and *M. meliolae* and which I believe also exists in the case of *M. cymbisperma*. (See p. 293.)

### Conspectus of *Leptomeliola*-*Meliolinopsis*.

#### No setae present

##### Spores 5-septate

4101. 3130, colony 5—15 mm., hc. pyriform, on

Fagaceae . . . . . *quercina* No. 1.

4101. 4220, colony 2—8 mm., hc. globose, on

Ericaceae . . . . . *callosperma* No. 2.

##### Spores 4-septate

31--. 534-, colony 1—2 mm., on Sterculiaceae . *tetradeniae* No. 3.

3103. 3130, hc. globose, on Anonaceae . . . . . *javanica* No. 4.

#### Setae present.

##### Spores 3-septate

2111. 3231, hc. sub-globose, setae 300  $\mu$ , obtuse,

on Urticaceae . . . . . *leucosykeae* No. 5.

2111. 4132, colony 2 cm., setae 250  $\mu$ , obtuse, on

Anonaceae . . . . . *uvariae* No. 6.

##### Spores 5-septate

4111. 3231, colony crustose, setae 250—300  $\mu$ ,

obtuse, on Palmae . . . . . *manaosensis* No. 7.

## Spores 4-septate

3411. 4231, setae 120  $\mu$ , ch. irregularly sub-globose, on Apocynaceae . . . . . *clavatispora* No. 8.  
 3122. 3221, setae 220—250  $\mu$ , ch. angled, on Leguminosae . . . . . *curviseta* No. 9.  
 3111. 4221; colonies 2—5 mm., setae 200—300  $\mu$ , hc. very crowded, on Lauraceae . . . . . *anomala* No. 10.

No. 1. **Leptomeliola quercina** (Patouillard) v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna), Math.-natur. Kl. 128: 558. 1919.

*Meliolinopsis quercina* (Patouillard) Beeli, Bul. Jard. Bot., Bruxelles, 7: 119. 1920.

*Meliola quercina* Patouillard, Jour. Bot. 4: 61. 1890.

On Fagaceae: *Quercus*.

Type locality: Tonkin, China.

Citations: 155\*, 213, 83\*, 2, 3.

Specimen: Roum., Fungi sel. Gall. exs. 5945.

No. 2. **Meliolinopsis callosperma** (Spegazzini) Beeli, Bul. Jard. Bot., Bruxelles, 8: 120. 1920.

*Meliola callosperma* Spegazzini, Bol. Acad. Nac. Cient., Cordoba, 23: no. 275. 1919.

On Ericaceae: *Gaylussacia*.

Type locality: Apiaby, Brazil, Puiggari no. 315.

No. 3. **Meliolinopsis tetradeniae** (Berkeley) Beeli, Bul. Jard. Bot., Bruxelles, 7: 119. 1920.

*Dothidea tetradeniae* Berkeley, in Berkeley & Cooke, Jour. Linn. Soc. 14: 136. 1875.

*Homostegia tetradeniae* (Berkeley) Saccardo, Syll. 2: 650. 1883.

*Meliola tetradeniae* (Berkeley) Theissen & Sydow, Annal. Mycol. 12: 177. 1914.

On Sterculiaceae: *Tetradenia*.

Type locality: Ceylon.

No. 4. **Leptomeliola javensis** v. Höhnelt, Sitzber. Akad. Wiss. Wien (Vienna), Math.-natur. Kl. 128: 559. 1919.

On Anonaceae: *Uvaria* (?).

Type locality: Java.

No. 5. **Meliola leucosykeae** Yates, Philippine Jour. Sci., C. Bot., 12: 366. 1917.

On Urticaceae: *Leucosyke*.

Type locality: Samar, Philippinis, Bur. Sci. 24621 Ramos.

Specimen: the type.

It is a question whether the setae here found belong to the *Meliola*, moreover, the spores are not typical *Meliola* spores and it is extremely probable that two forms are here confounded.

No. 6. **Meliolinopsis uvariae** (Rehm) Beeli, Bul. Jard. Bot., Bruxelles, 7: 119. 1920.

*Meliola uvariae* Rehm, Philippine Jour. Sci., C. Bot., 8: 251. 1913.

On Anonaceae: Uvaria.

Type locality: Luzon, Philippines, 680, Baker.

Citations: 201, 202, 4.

Specimen: Baker, Fungi Mal. 46. The specimen examined is very heavily parasitized by *Helminthosporium*.

Three-septate spores of the *Meliola* form are found, but this very well may be a case of a parasite on a *Meliola*.

No. 7. **Meliolinopsis manaosensis** (Hennings) Beeli, Bul. Bot. Jard., Bruxelles, 7: 120. 1920.

*Meliola manaosensis* Hennings, Hedw. 43: 366. 1904.

On Palmae: Mauritia.

Type locality: Manaos, Amazon, Ule 3145.

Citation: 101.

Specimen: Ule, Myc. Bras. 59.

The only specimens available are very heavily parasitized.

No. 8. **Meliolinopsis clavatispora** (Spegazzini) Beeli, Bul. Jard. Bot., Bruxelles, 7: 119. 1920.

*Meliola clavatispora* Spegazzini, Bol. Acad. Nac. Cient., Cordoba. 11: 590. No. 241. 1889.

On Apocynaceae.

Type locality: Apiahy, Brazil no. 1701.

Distribution: Brazil 242, 83.

Citations: 116, 263\*, 3, 29b.

Specimen: ex the type. The type specimen is very heavily parasitized.

No. 9. **Meliolinopsis curviseta** (Raciborski) Beeli, Bul. Jard. Bot., Bruxelles, 7: 119. 1920.

*Meliola curviseta* Raciborski, Parasitische Algen und Pilze Java's 3: 33. 1900.

On Leguminosae: Phanera.

Type locality: Java.

No. 10. **Meliolinopsis anomala** (Tracy & Earle) Beeli, Bul. Jard. Bot., Bruxelles, 7: 144. 1920.

*Leptomeliola anomala* (Tracy & Earle) v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna), Math.-natur. Kl., Ab. I, 128: 558. 1919.

*Meliola anomala* Tracy & Earle, Bul. Torrey Bot. Club 28: 184. 1901.

On Lauraceae: Persea.

Type locality: U. S. A., Florida.

Citation: 116.

Specimen: Ule 59. The specimen is very heavily parasitized.

## Excluded species.

No effort is here made to include all of the various synonyms, or citations to the voluminous literature, but to include sufficient information to enable the student to readily become acquainted with the status. The forms are arranged alphabetically by their *Meliola* binomials. No attempt is made to assign these forms to their proper genus other than to give as synonyms the various genera to which they have been referred, and occasionally to quote such opinions as seem worthy of note.

No. 1. *Meliola abietis* (Cooke) Saccardo, Syll. Fung. 1: 69. 1882.

*Apiosporium abietis* Cooke, Grev. 9: 94. 1881.

Citations: 32, 355.

No. 2. *Meliola abjecta* (Wallroth) Schroeter in Rab. Fungi europ. 2424.

*Sphaeria abjecta* Wallroth, Fl. Crypt. Germ. 2: 810. 1833.

*Dothidea veronicae* Libert, Fl. Crypt. Ard. II, n. 173. 1832—1837.

*Dimerosporium abjectum* Wallroth, Fockel Symb. Myc. 89. 1869.

*Capnodium sphaericum* Cooke, Handb. 2808. 1892.

*Asteroma veronicarum* Rabh., Herb. Myc. Ed. 2: 739.

*Asterina veronicae* (Libert) Cooke, Grev. 5: 122. 1876.

*Asteroma veronicae* Desmazieres in Marchal, Crypt. Belg. 76.

*Dimerosporium veronicae* (Libert) Arn., Thesis, 1918.

Citations: 317, 174.

No. 3. *Meliola amphitricha* (Fries) Fries, Elenchus Fungorum 109. 1828.

*Sphaeria amphitricha* Fries, Syst. Mycol. 2: 513. 1823.

*Meliola concinna* Mtg. in herb.

*Meliola panicea* Mtg. in herb.

*Meliola capnodioides* Thüm., Fung. Austro-Afr. no. 53.

This specific name, though long accepted by mycologists must, as Arnaud (2) has clearly shown, be rejected for the reasons he has so cogently stated.

Since the actual type that Fries had in mind could not be determined Patouillard selected the specimens used by Montagne (Sagra), specimens that had been examined by Fries. From these, the most nearly authentic specimens available, Patouillard gave a detailed description leading to the formula 3111. 4322, agreeing with that of Gaillard, from similar specimens. The most significant characters given are: large colonies, mycelium 8–10  $\mu$  thick, capitate hyphopodia 20–30  $\mu$  long, head cell clavate, truncate, 15–20  $\mu$  thick at tip, setae acute or obtuse, septate, 400  $\mu$  long; but even in these studies the host was unknown or was not mentioned. Thus the early descriptions are all inadequate. It is unknown on what hosts the specimens on which they were based occurred and is utterly impossible, if one wished to retain the name, to know to what morphologic form properly to assign it. The early descriptions of *M. amphi-*



*tricha* mentioned above indicate a *Meliola* of the largest section of the genus, which comprises more than 100 species, to almost any one of which the description of *M. amphitricha* might apply. Since the time of Fries *Meliola amphitricha* has been reported on families and genera as follows:

- On Acanthaceae: *Justicia*.
- On Anacardiaceae: *Schinus*, *Rhus*.
- On Apocynaceae: *Alyxia*.
- On Araliaceae: *Aralia*, *Cussonia*.
- On Bignoniaceae: *Jacaranda*.
- On Burseraceae: *Hedwigia*.
- On Caprifoliaceae: *Viburnum*.
- On Celastraceae.
- On Combretaceae: *Terminalia*.
- On Compositae.
- On Cornaceae: *Garrya*.
- On Cyperaceae: *Cladium*, *Rhynchospora*, *Scleria*.
- On Flacourtiaceae: *Casearia*.
- On Gramineae: *Bambusa*, *Paspalum*, *Panicum*.
- On Hippocrateaceae: *Hippocratea*, *Salacia*.
- On Labiatae: *Plectranthus*.
- On Lauraceae: *Persea*.
- On Leguminosae: *Andira*, *Acacia*, *Pithecolobium*, *Tamarindus*.
- On Loranthaceae: *Loranthus*.
- On Lythraceae: *Lithraea*.
- On Magnoliaceae: *Drymis*, *Magnolia*.
- On Malvaceae: *Abutilon*.
- On Melastomataceae: *Memecylon*.
- On Meliaceae: *Dysoxylon*, *Trichilia*.
- On Myrtaceae: *Psidium*, *Eucalyptus*.
- On Oleaceae: *Olea*, *Osmanthus*, *Jasminum*.
- On Palmae: *Phoenix*.
- On Polygonaceae: *Coccoloba*.
- On Phytolaccaceae: *Phytolacca*.
- On Rubiaceae: *Gardenia*, *Grumilea*, *Mitriostigma*, *Plectronia*, *Psychotria*.
- On Rutaceae: *Amyris*, *Flindersia*.
- On Sapindaceae: *Cupania*, *Sapindus*, *Serjania*.
- On Scitamineae.
- On Solanaceae.
- On Symplocaceae: *Symplocos*.
- On Verbenaceae: *Callicarpa*.

*M. amphitricha* has been reported also from following localities:

South America:

Chile, Surinam, Insula Gallie, Argentine, Peru, Paraguay, Brazil,  
Venezuela, Guiana.

## Asia:

Java, Senegambia, Borneo, China, Tonkin, India, Japan, Philippines.

## Oceania:

New Zealand, Victoria, Australia, Tahiti.

## North America:

United States of America, Nicaragua, Porto Rico, Cuba, St. Domingo.

## Africa:

St. Thomas, Congo, South Africa, East Africa.

Thus the literature regarding this form is by far greater for any other species.

Most of these reports are, however, worse than useless because they usually indicate merely that a *Meliola* of the formula 3111 was seen, therefore aside from all other reasons it is desirable to be rid of this misleading name.

No. 4. *Meliola baccharidis* Berkeley & Ravenel, Grev. 4: 158. 1876.

*Asterina melioloides* B. & C., Grev. 4: 10. 1876.

*Dimerosporium baccharidis* (Berk. & Rav.) Saccardo, Syll. Fung. 1: 53. 1882.

*Dimeriella melioloides* (B. & C.) Theissen, Annal. Mycol. 10: 1. 1912.

*Dimerosporium melioloides* (Berk. & C.) Ellis, Jour. Mycol. 1: 146. 1885.

*Meliola ravenelii* Berk., in herb.

*Asteridium coronatum* Speg., Fungi Guar. 2: 48. 1888.

*Dimerosporium puiggarii* Speg., Fungi Puigg., no. 217. 1889.

*Dimerosporium annulatum* Rehm, Hedw. 35: 53. 1896.

*Asterella longiseta* Starb., Asc. I. Regn. Exp. I, p. 25. 1899.

*Asterina microtheca* Pat., Bul. Soc. Mycol. France 18: 301. 1902.

*Asteridium distans* Rehm, Hedw. 40: 157. 1901.

*Asterella trichodea* Rehm, Hedw. 40: 159. 1901.

*Dimeriella horridula* Syd., Annal. Mycol. 7: 352. 1909.

*Dimerosporium gnaphalii* P. Henn., Hedw. 41: 279. 1902.

On Galax, Arundinaria, Laurus, Mitchella, Baccharis.

No. 5. *Meliola balsamicola* Peck, N. Y. Mus. Rpt. 34: 52. 1881.

*Asterina nuda* Peck, Rpt. 38: 102. N. Y. St. Mus. Rpt. 1885.

*Asterella nuda* (Peck) Saccardo, Syll. Fung. 9: 397. 1891.

*Dimerosporium balsamicola* (Peck) Ellis & Everhart, N. Amer. Pyrenom. 728.

1892.

*Zukalia balsamicola* (Peck) Saccardo, Syll. Fung. 9: 432. 1891.

*Zukalia sordidula* (Léveillé) Saccardo, Syll. Fung. 9: 432. 1891.

*Cryptopus balsamicola* (Peck) Theissen, Annal. Mycol. 12: 407. 1916.

*Cryptopus nudus* (Peck) Theissen, Annal. Mycol. 12: 73. 1914.

On Abies.

No. 6. *Meliola berkeleyi* Patouillard, Rev. Mycol. 10: 136. 1888.

On Magnoliaceae: Drymis.

Type locality: Queensland, Australia, no. 270, Berkeley & Broome.

Originally reported under the name *M. corallina* Montagne by Berkeley & Broome.

Citation: 15\*.

No. 7. *Meliola (Meliopsis) calendulae* Malbranche & Roumeguère, Rev. Mycol. **8**: 90. 1886.

On Calendula.

Referred to *Sphaerotheca* (218).

No. 8. *Meliola camelliae* (Cattaneo) Saccardo, Syll. Fung. **1**: 62.

*Fumago camelliae* Cattaneo in Arch. Trienn. Lab. Crittog., Pavia, II.

On Camellia, Citrus, Thea.

Citations: 339, 268, 27, 140, 170\*, 137, 217, 260.

Specimen: Biriosi & Cav., Fungi Par. 106.

The fungus, known so widely in the literature as *Meliola camelliae*, clearly belongs to the Capnodiaceae.

No. 9. *Meliola citri* (Briosi & Passerini) Saccardo, Syll. Fung. **1**: 69. 1882.

*Apiosporium citri* Briosi & Passerini, Trans. Acad. Lincei **1**: 1877.

*Chaetophoma citri* Saccardo, Syll. Fung. **3**: 200. 1884.

On Citrus.

Citations: 217, 27\*, 170\*.

Specimen: Roum., Fungi Sel. Gall. Exs. 4841.

No. 10. *Meliola citricola* K. Hara, in Shidzuoka-ken Nokwaiho (Jour. Agr. Soc., Shidzuoka, Prefecture No. 263: 8—9. 1919) (not *M. citricola* Sydow).

*Meliola harana* Trotter Syll. Fung. **24**: 337. 1926.

On Citrus.

Citation: 308.

This is not a *Meliola* but probably is of the Capnodiaceae (275).

No. 11. *Meliola clavispora* Patouillard, Jour. Bot. (Paris) **4**: 61. 1890.

*Patouillardina clavispora* (Patouillard) Arn. Thesis 1918.

*Meliolaster clavisporus* (Patouillard) v. Höhnelt, Ber. Deut. Bot. Ges. **35**: 700. 1917.

*Meliolinopsis clavispora* (Patouillard) Beeli, Bul. Jard. Bot., Bruxelles, **8**: 119. 1920.

On Myrtaceae: Eugenia.

Distribution: Tonkin.

Citations: 155\*, 83\*, 69\*, 116, 113, 2.

Specimen: Roum., Fungi Sel. Gal. Exs. 5631.

v. Höhnelt states that this is truly of the Microthyriaceae and makes it the type of a new genus *Meliolaster* v. Höhnelt (not Doidge).

No. 12. *Meliola cryptocarpa* Ellis & Martin, Amer. Nat. **17**: 1284. 1883.

On Theaceae: Gordonia 67, 134, 83. On Rubiaceae: 9.

Type locality: South U. S. A., Florida, on Gordonia.

Citations: 83\*, 64.

Specimen: Ellis & Everhart, N. Amer. Fungi 1293.

The type specimen, N. A. F. 1293, is very heavily parasitized and undeterminable. The original description was based almost entirely on the conidial parasite. The redescription by Gaillard is also so based. Gaillard does not mention 8-spored asci, as did Ellis and Martin. There is undoubtedly a *Meliola* here but from no description or specimen can it be recognized.

No. 13. *Meliola cymbisperma* Montagne, Ann. Sci. Nat., Sér. 2., Bot., 20: 374. 1843.

On Liliaceae: *Smilax*.

Type locality: Surinam.

Specimen: the type.

The portion of the type specimen of *M. cymbisperma* Mont. in the Kew herbarium consists of a small fragment of leaf  $1 \approx 1.5$  cm bearing one large and several small colonies. The small colonies bear no perithecia or setae and are of the *Irene* group. The large colony bears numerous setae and globose, smooth perithecia with prominent ostioles and bear asci and spores precisely as figured by Gaillard for *M. hyalospora*.

The perithecia and asci suggest that we have here a fungus, possibly a *Meliolina*, parasitic upon one of the *Irene* group, but definite proof of this can not be adduced without more study of the type specimen than I felt at liberty to make.

No. 14. *Meliola fenestrata* Cooke & Ellis, Grev. 5: 95. 1877.

*Meliola* (*Pleomeliola*) *fenestrata* Cooke & Ellis, Syll. 1: 70. 1882.

*Limacinia* (?) *fenestrata* Sacc., Syll. 14: 475. 1890.

On *Pinus*.

Citations: 134, 64.

No. 15. *Meliola fuliginodes* (Rehm) Saccardo in Gaillard, Le Gen. Mel. 124.

*Capnodium fuliginodes* Rehm, Ascom. N. 245. 1874.

*Spheconisca humilis* Norman, in Bot. Not. 174. 1876.

On *Acer*.

Specimens: Rehm, Ascom. 245, De Thüm., Myc. Univ. 1147.

This fungus is *Capnodiaceous*.

No. 16. *Meliola fumago* Niessl, Hedw. 20: 99. 1881.

*Dimerosporium fumago* (Niessl) Sacc., Syll. Fung. 1: 53. 1882.

*Asterina pemphidioides* Cooke, Grev. 5: 16. 1876.

*Lembosia tenella* Lévillé.

*Dimerium fumago* (Niessl) Sacc. & Syd., Sylloge 17: 537. 1905.

*Lembosia fumago* (Niessl) Winter, Flora 67: 266. 1884.

*Asterina fumago* (Niessl) v. Höhnelt, Sitzber. Akad. Wiss. Wien. 119: 435. 1910.

On *Celastrus*.

Citation: 318.

Specimen: Rab., Wint. & Pazsch., Fungi europ. 2513.



No. 17. *Meliola heteromeles* (Cooke & Harkness) Berlese & Voglino in Saccardo, Syll. ad. Fung. 1—4: 20. 1886.

*Meliolopsis heteromeles* Cooke & Harkness, Grev. 13: 21. 1884.

*Zukalia heteromeles* (Cooke & Harkness) Saccardo, Syll. 9: 432. 1891.

No. 18. *Meliola hibisci* (Sprengel) Fries.

*Sphaeria amphitricha* a. *hibisci* Fries, Syst. Myc. 2: 513. 1823.

*Amphitrichum hibisci* Sprengel.

*Meliola amphitricha*.

Citations: 2, 71, 29b.

No. 19. *Meliola hyalospora* Lévillé, Ann. Sci. Nat., Sér. 3., Bot., 5: 256. 1846.

*Leptomeliola hyalospora* (Lévillé) v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna), Math.-natur. Kl., Ab. 1, 128: 558. 1919.

*Meliolinopsis hyalospora* (Lévillé) Beeli, Bul. Jard. Bot., Bruxelles, 7: 119. 1920.

On Palmae: Desmoncus. On Dilleniaceae: Acrotrema. On Liliaceae: Smilax.

Type locality: Batavia, Guiana, on Desmoncus.

Distribution: Surinam; Ceylon.

Citations: 19\*, 20, 14, 83\*, 116, 69\*, 147, 11\*, 154, 25, 3, 313.

This is probably identical with *M. cymbisperma*, see p. 293. My only specimen, Kegel 594, is heavily parasitized and shows no perithecia.

No. 20. *Meliola kydia* Saccardo, Bull. d. Orto Bot. di Napoli 6: 13. 1921.

On Garcinia.

Description inadequate.

No. 21. *Meliola loganiensis* Saccardo & Berlese, Atti R. Ist. Veneto Sci. Let. & Art. 3: Ser. 6.

*Zukalia loganiensis* (Saccardo & Berlese) Saccardo & Berlese, in Syll. Fung., 9: 431. 1891.

*Asterina splendens* Pat., Jour. Bot. 148. 1888.

*Parodiopsis* ? *splendens* (Pat.) Arn., Ann. Epiph. 7: 51. 1921.

On Smilax.

Citations: 31, 3.

No. 22. *Meliola macalpini* Saccardo & Sydow, Syll. Fung. 14: 471. 1897.

*Meliola denticulata* McAlpine, Proc. Linn. Soc. N. S. Wales 22: 700. 1897. (not *Meliola denticulata* Winter).

On Meliaceae: Dysoxylon.

Citation: 138\*.

In none of the publications regarding this form are characters mentioned which would show it to be a *Meliola*, nor do such characters appear in the original illustrations. The spore as figured is quite unlike those of *Meliola* in shape and dimensions.

No. 23. *Meliola macowaniana* Thümen, Flora, N. S., 59: 569. 1876.  
*Asterina macowaniana* (Thümen) Kalchbrenner & Cooke, Grev. 9: 33. 1880.  
*Dimerosporium macowanianum* (Thümen) Saccardo, Syll. Fung. 1: 53. 1882.  
*Englerula macowaniana* (Thümen) v. Höhnelt, Frag. 10: no. 490, 28. 1910.  
*Parenglerula macowaniana* (Thümen) v. Höhnelt, Sitzber. K. Akad. Wiss. (Vienna), Math.-natur. Kl. 119: 465. 1910.

*Dimerium macowanianum* (Thümen) Doidge, Trans. Roy. Soc. So. Africa 5: 718. 1915.

*Englerulaster macowanianus* (Thümen) Arnaud, Thesis 1918.

On Celastrus.

Citations: 127\*, 317, 45, 179, 108, 2.

Specimens: De Thüm., Myc. Univ. 568, Roum., Fungi Sel. Gal. Exs. 4567, 568, Rehm, Ascom. 395.

No. 24. *Meliola maculosa* Ellis, Bull. Torrey Bot. Club 8: 91. 1881.

*Dimerosporium ellisii* Saccardo, Syll. Fung. 1: 54. 1882.

On Andromeda.

Specimen: Ellis & Everhart, N. Amer. Fungi 200, sub *Venturia maculosa*.

No. 25. *Meliola microthecia* Thümen, Flora 34: 569. 1876.

On Rutaceae: Barosma.

The original description of this species with the perithecia flattened, asci 6-spored, spores hyaline, clearly does not refer to a *Meliola*. An entirely different fungus was described by Gaillard under the same name. See p. 259. *M. microthecia* is cited by Theissen & Sydow as the type of the questionable genus *Meliolopsis* Saccardo.

No. 26. *Meliola mori* (Cattaneo) Saccardo, Syll. Fung. 1: 68. 1882.

*Capnodium mori* Cattaneo, Nero 8: 5.

On Morus.

Citation: 27\*.

No. 27. *Meliola mucronata* (Montagne) Saccardo, Syll. 1: 62. 1882.

*Antennaria scoriadea* Montagne, Fl. Chile 7: 495. 1860 (not Berkeley).

*Capnodium mucronatum* Montagne, Ann. Sci. Nat. Bot., Sér. 4, 14: 175. 1860.

Citation: 145\*.

No. 28. *Meliola pachytricha* (Link) Saccardo, Syll. Fung. 1: 71. 1882.

*Myxothecium pachytrichum* Fries, Syst. Mycol. 3: 232. 1829.

*Sphaeria pachytrichum* Link in herb.

No. 29. *Meliola oligotricha* Montagne, Syll. Cryp. p. 254, no. 909. 1856.

*Dimerosporium oligotrichum* (Montagne) Saccardo, Syll. Fung. 1: 54. 1882.

*Dimerium oligotrichum* (Montagne) Saccardo & Sydow, Syll. Fung. 17: 537. 1905.

*Henningsiomyces oligotrichus* (Montagne) v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna), Math.-natur. Kl., Abt. 1, 119: 460. 1910.

On Olyra.

No. 30. *Meliola palmarum* Schweinitz, Syll. Fung. 1: 80. 1882.

*Capnodium fibrosum* Berkeley, in Hook. Flora Nov. Zealand 2: 209.

No. 31. *Meliola palmarum* (Kunze) Saccardo, Syll. Fung. 1: 71. 1882.

*Myxothecium palmarum* Kunze, Weigelt Surinam exs. in Fries Syst. Mycol.

3: 232. 1829.

*Asterina palmarum* (Kunze) Gaillard, Le Gen. Mel. 118. 1892.

Citations: 1, 317, 3.

This is said by Theißen not to belong to the Microthyriaceae.

No. 32. *Meliola patella* Theißen, Brot. 10: 27. 1910.

*Trichothyrium dubiosum* (Bom. et R.) Theißen, Annal. Mycol. 10: 26. 1912.

*Asterina dubiosa* Bomm. & Rouss., Bul. Soc. Bot. Belg. 32: 157.

*Trichothyrium fimbriatum* Speg.

*Asterella subfurcata* Rehm, Hedw. 40: 3. 1901.

*Asterina yoshinagai* P. Henn. fa. *ligustri*, Hedw. 41: 63. 1902.

*Asterina rufo-violascens* P. Henn., Hedw. 43: 83. 1904.

*Trichopeltopsis reptans* (B. & C.) v. Höhnelt, Frag. 7: 862. 1909.

No. 33. *Meliola penicillata* Léveillé, Ann. Sci. Nat. Bot., Sér. 3,

5: 266. 1846.

On Lauraceae:

Citation: 235.

v. Höhnelt (107) says that this is probably a Septobasidium.

No. 34. *Meliola penzigi* Saccardo, Syll. Fung. 1: 70. 1882.

*Chaetophoma penzigi* Saccardo, Syll. Fung. 3: 200. 1884.

*Limacinia penzigi* (Saccardo) Saccardo, Syll. Fung. 14: 474. 1890.

*Capnodium citri* Penzig.

*Fumago citri* Persoon, Mycol. Eur. 1: 10.

*Morfea citri* Roze, Bul. Soc. Mycol. France 14: 1.

*Dematium monophyllum* Bisso, Hist. Nat. 2.

On Citrus.

Citations: 170\*, 137, 339, 260, 268.

Specimen: Briosi & Cav., Fungi Par. 135.

No. 35. *Meliola psilostomae* Thüm., Mycol. Univ. 775 & Flora 60: 408. 1877.

*Dimerosporium psilostomatis* (Thümen) Saccardo 1: 54. 1882.

*Dimerium psilostomatis* (Thümen) Saccardo, Syll. Fung. 17: 537. 1905.

*Dimerium psilostomae* (Thümen) v. Höhnelt, Sitzber. K. Akad. Wiss. Wien (Vienna), Math.-natur. Kl. 119: 406. 1910.

On Psilostoma.

Citations: 45, 108.

Specimen: De Thum., Myc. Univ. 775.

No. 36. *Meliola pulveracea* Spegazzini, An. Soc. Cient., Argentina, 12: No. 118. 1881.

*Dimerosporium pulveraceum* (Spegazzini) Spegazzini, Bol. Acad. Nac. Cient., Cordoba, 11: No. 219. 1889.

*Dimerium pulveraceum* (Spegazzini) Theissen, Bot. Centbl. Beih. **29**: 66. 1912.

Citations: 251, 255.

No. 37. *Meliola quinquespora* de Thümen, Flora **59**: 568. 1876.

On Loganiaceae: Buddleya.

Distribution: Somerset, East South Africa.

Type locality: Somerset, East, South Africa, MacOwan 1251.

This fungus from the original description, with subglobose perithecia, asci 5-spored, spores simple and hyaline, is clearly not a *Meliola*. However on specimens bearing this label *Meliola inermis* has been found (de Thuem. 657) and several authors have regarded *M. inermis* and *Meliola quinquespora* as identical 83, 45.

Specimen: De Thüm., Mycol. Univ. 657.

No. 38. *Meliola sclerochitonis* Kalchbrenner, cited by Doidge.

*Antennaria scoriadea* in Gay Hist. Chile **7**: 472. 1850.

*Asterina fimbriata* Kalchbrenner & Cooke, Grev. **9**: 33. 1880.

On Sclerochiton.

Citations: 45, 317, 127\*.

No. 39. *Meliola sordidula* (Léveillé) Berlese & Saccardo, Syll. Fung. Ad. **1—4**: 339. 1886.

*Sphaeria sordidula* Léveillé, Ann. Sc. Nat. 296. 1863.

*Zukalia sordidula* (Léveillé) Saccardo, Syll. Fung. **9**: 432. 1891.

No. 40. *Meliola spartinae* (Ellis & Everhart) Berlese & Voglino, Syll. Ad. **1—4**: 395. 1884.

*Dimerosporium spartinae* Ellis & Everhart, Jour. Mycol. **2**: 102. 1886.

On Spartina.

No. 41. *Meliola tenuis* Berkeley & Curtis in Rav., Fungi Amer. 831 and Grev. **7**: 49. 1878 (Both without description).

On Arundinaria.

Citations: 134, 64.

Specimens: Rav., Fungi Amer. 831, 330, Ellis & Everhart, N. Amer. Fungi 3421, Ellis & Everhart, Fungi Col. 1033.

No. 42. *Meliola tetracerae* F. Müller & Thümen in Flora, 1878.

*Limacinia tetracerae* Saccardo, Syll. Fung. **14**: 474. 1890.

Citation: 31.

No. 43. *Meliolinopsis theobromae* (v. Faber) Beeli, Bul. Bot. Jard., Bruxelles, **7**: 120. 1920.

*Meliola theobromae* Faber, Arb. K. Biol. Anst., Berlin, **7**: 220. 1909.

On Sterculiaceae: Theobroma.

Type locality: Africa.

The description is so inadequate that no position can be assigned to this fungus. The asci are 8-spored; the spores continuous and hyaline.



No. 44. *Meliola triseptata* Berkeley & Broome in Cke., Grev. 11: 38. 1882.

Type locality: Borneo, Ceylon.

Citation: 28.

No. 45. *Meliola umirayensis* Yates, Philippine Jour. Sci., C. Bot., 13: 370. 1918.

*Chaetosphaeria meliicola* Sydow.

On Ficus.

Citation: 273.

### Host Index by Families.

Names printed in capitals are those of species of which the type was on a member of the host family under which the record is here made. The other species have been reported as on members of the host family by authors indicated by the bibliographic references in the text, though doubtless the determinations were in many cases inaccurate. In general species reported as of the Meliolineae but now excluded are not here listed, exception, however, is made in the case of *M. amphitricha* since in such cases a true *Meliola* was undoubtedly present, though the species determination is unreliable.

The family numbers are taken from the "Genera Siphonogamarum" of Dalla Torre and Harms. The Pteridophytes and fungi are added as Nos. 281, 282.

#### 5. On Taxaceae.

##### Irenina.

2101. 5230 . . . . .	PODOCARPI	No. 3.
2101. 4230 . . . . .	PITYA	No. 4.
3101. 4230, on Rubiaceae . . .	glabra	No. 66.

##### Meliola.

4111. 53-3 . . . . .	PELTATA	No. 1.
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On Podocarpus, Taxus.

#### 6. On Pinaceae.

##### Irenina.

2101. 5230 . . . . .	PINICOLA	No. 9.
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On Pinus.

#### 19. On Gramineae.

##### Meliola.

3143. 4231, on Araliaceae . . .	dichotoma	No. 39.
3141. 5221 . . . . .	ARUNDINIS	No. 63.
3141. 4222 . . . . .	SACCHARI	No. 72.
3141. 5331 . . . . .	BAMBUSAE	No. 73.
3133. 4222 . . . . .	IMPERATAE	No. 132.
3141. 4211 . . . . .	STENOTAPHRI	No. 171.

3111. 4221, <i>S. obtuse</i> . . . . .	HERCULES	No. 278.
3111. 3223, <i>S. obtuse</i> . . . . .	PANICICOLA	No. 369.
3111. 3223, <i>S. obtuse</i> . . . . .	PANICI	No. 385.
3111. 4232, on Sapindaceae, <i>S. acute</i> . . . . .	parenchymatica	No. 427.
3111. 3222, <i>S. acute</i> . . . . .	CHAETOCHELOE	No. 484.
3111. 4222, <i>S. acute</i> . . . . .	SUBSTENOSPORA	No. 485.
3111. 4322 . . . . .	amphitricha Exc.	

On *Amphilophium*, *Andropogon*, *Anthistiria*, *Arundinaria*, *Arundo*, *Bambusa*, *Chaetochloa*, *Chloris*, *Chusquea*, *Homolepis*, *Ichnanthus*, *Imperata*, *Isachne*, *Lasiacis*, *Olyra*, *Oplismenus*, *Panicum*, *Paspalum*, *Phragmites*, *Rottboellia*, *Saccharum*, *Spartina*, *Stenotaphrum*, *Stipa*, *Gramineae* indet.

## 20. On Cyperaceae.

### Meliola.

3411. 5233 . . . . .	ARGENTINA	No. 30.
3411. 4223 . . . . .	CIRCINANS	No. 31.
3111. 5323, <i>S. acute</i> . . . . .	MAPANIAE	No. 415.
3111. 3223, <i>S. acute</i> . . . . .	INTRICATA	No. 468.
3111. 4233, <i>S. acute</i> . . . . .	ITALICA	No. 482.
3111. 4232, <i>S. acute</i> . . . . .	ULEANA	No. 491.
3111. 423-, on Cannaceae, <i>S. acute</i>	velutina	No. 497.
3111. . . . .	amphitricha Exc.	

On *Baumea*, *Cladium*, *Cyperus*, *Eleocharis*, *Gahnia*, *Heleocharis*, *Lagenocarpus*, *Mapania*, *Mariscus*, *Rhynchospora*, *Scirpus*, *Scleria*, *Vincentia*, *Cyperaceae* indet.

## 21. On Palmae.

### Meliolina.

2110. 3121 . . . . .	IQUITOSENSIS	No. 19.
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### Irenina.

3101. 4230, on Rubiaceae . . .	glabra	No. 66.
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### Meliola.

3141. 6321 . . . . .	ELAEIS	No. 59.
3141. 4231 . . . . .	FURCATA	No. 65.
3141. 4224 . . . . .	FURCATA var. COPERNICIAE	No. 66.
3141. 4211 . . . . .	MORROWII	No. 67.
3141. 3221 . . . . .	MELANOCOCCA	No. 68.
3131. 4222, on Leguminosae . . .	denticulata	No. 99.
3131. 4223 . . . . .	PALMICOLA var. COPERNICIAE	No. 133.
3141. 4222 . . . . .	AMADELPHA	No. 162.
3141. 5332 . . . . .	PALMICOLA	No. 176.
3141. 5332 . . . . .	LIVISTONAE	No. 182.
3121. 4221 . . . . .	MAURITIAE	No. 191.
3111 . . . . .	amphitricha Exc.	

## Meliolinopsis.

4111. 3231 . . . . . MANAOSENSIS No. 7.

On Acrista, Bactris, Coccothrinax, Copernicia, Desmoncus, Elaeis,  
Livistona, Mauritia, Phoenix, Roystonia, Sabal, Serenoa, Thrinax,  
Genera indet.

## 22. On Cyclanthaceae.

## Meliola.

3131. 4221, on Bignoniaceae . . bidentata No.116.

On Carludovica.

## 23. On Araceae.

## Irenina.

3101. 3220 . . . . . ARACEARUM No. 56.

## Meliola.

3142. 5221 . . . . . PHILODENDRI No. 44.

3133. 3222 . . . . . DIEFFENBACHIAE No. 84.

3121. 4232, on Musaceae . . . musae No.187.

31½1. 4232, on Apocynaceae . . intermedia No.201.

3111. 2222, S. obtuse . . . . . ALOCASIAE No.363.

On Alocasia, Dieffenbachia, Montrichardia, Philodendron, Genera indet.

## 37. On Stemonaceae.

## Meliola.

3131. 5233 . . . . . STEMONAE No.135.

On Stemona.

## 38. On Liliaceae.

## Meliola.

3141. 4232 . . . . . DRACAENICOLA No. 75.

3133. 4221, on Leguminosae . . pellucida No. 77.

31½1. 5222 . . . . . SMILACIS No.150.

31½1. 6331 . . . . . DRACAENAE No.166.

31½1. 533- . . . . . SUBDENTATA No.170.

3111. 4223, S. acute . . . . . GREGORIANA No.476.

On Behnia, Dianella, Dioscorea, Dracaena, Smilax.

## 41. On Velloziaceae.

## Irenina.

3101. 4230, on Rubiaceae . . . glabra No. 66.

## Meliola.

3111. 4223, S. acute . . . . . INTRICATA var. MAJOR No.469.

On Barbacenia.

## 45. On Musaceae.

## Meliola.

31½1. 4223 . . . . . HELICONIAE No.174.

3121. 4232 . . . . . MUSAE No.186.

On Heliconia, Ravenala, Urania.

## 46. On Zingiberaceae.

## Irenina.

3101. 3210 . . . . .	PARASITICA	No. 34.
3101. 4220 . . . . .	COSTI	No. 55.

## Meliola.

3132. 3224 . . . . .	LONGISTIPITATA	No. 90.
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## On Costus, Dimerocostus.

## 47. On Cannaceae.

## Meliola.

3111. 423- . . . . .	VELUTINA	No. 497.
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## On Genus indet.

## 48. On Marantaceae.

## Meliola.

3142. 3221 . . . . .	CALATHEAE	No. 46.
31 $\frac{1}{3}$ 1. 2221 . . . . .	MARANTACEARUM	No. 161.
31 $\frac{1}{3}$ 1. 4222 . . . . .	HETEROTRICA	No. 163.
3111. 6223, S. obtuse . . . . .	HISPIDA	No. 279.
3111. 3221, S. obtuse . . . . .	MARANTAE	No. 324.
3111. 6222 S. obtuse or acute . . . . .	CALATHEICOLA	No. 405.

## On Calathea, Bihai, Donax (Thalia), Maranta.

## 53. On Piperaceae.

## Actinodothis.

3101. 3230 . . . . .	PIPERIS	No. 2.
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## Amazonia.

3101. 3240, . . . . .	ASTERINOIDES	No. 7.
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## Irenopsis.

3401. 4220, on Malvaceae . . . . .	molleriana	No. 30.
3301. 5220 . . . . .	TORTUOSA	No. 39.

## Irenina.

3101. 3220, on Compositae . . . . .	cyclopoda	No. 23.
3101. 4230, on Rubiaceae . . . . .	glabra	No. 66.
3101. 3220 . . . . .	GLABROIDES	No. 72.
3101. 4240, on Loganiaceae . . . . .	obducens	No. 92.

## Meliola.

34 $\frac{2}{3}$ 1. 3121 . . . . .	CONTORTA	No. 21.
3143. 3121 . . . . .	PIPERIS	No. 42.
3141. 5232 . . . . .	PULULAHUENSIS	No. 62.
3141. 4231, on Palmae . . . . .	furcata	No. 65.
3131. 3221 . . . . .	GAILLARDIANA	No. 97.
3131. 3221 . . . . .	ZETEKII	No. 98.
3131. 4222 . . . . .	PATOUILLARDI	No. 109.
3111. 3223, S. obtuse . . . . .	PAUCIPES	No. 373.



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| 3111. 4222, <i>S. acute</i> . . . . .  | STENOSPORA                 | No. 477.   |
| 3111. 3222, <i>S. acute</i> . . . . .  | PIPERINA                   | No. 489.   |
| On <i>Artanthes</i> , <i>Piper</i> .   |                            |            |
| 57. On <i>Myricaceae</i> .   |                            |            |
| Irenina.   |                            |            |
| 2101. 4220 . . . . .   | MANCA                      | No. 6.     |
| On <i>Myrica</i> .   |                            |            |
| 62. On <i>Fagaceae</i> .   |                            |            |
| Irenopsis.   |                            |            |
| 3401. 4320 . . . . .   | COSTARICENSIS              | No. 35.    |
| Leptomeliola.  |                            |            |
| 4101. 3130 . . . . .   | QUERCINA                   | No. 1.     |
| On <i>Quercus</i> .  |                            |            |
| 63. On <i>Ulmaceae</i> .   |                            |            |
| Meliola.   |                            |            |
| 3121. 4232 . . . . .   | CELTICOLA ✓                | No. 199.   |
| 3111. 5234, <i>S. obtuse</i> . . . . .   | CELTIDIAE ✓                | No. 366.   |
| 3111. 6233 . . . . .   | CELTIDICOLA                | No. 365 a. |
| 3111. 4232, <i>S. obtuse</i> or <i>acute</i> .   | CELTIDUM                   | No. 399.   |
| On <i>Celtis</i> .   |                            |            |
| 64. On <i>Moraceae</i> .   |                            |            |
| Irene.   |                            |            |
| 3201. 5220 . . . . .   | ECHINUS                    | No. 15.    |
| 3201. 4220 . . . . .   | TONKINENSIS                | No. 16.    |
| 3201. 4220 . . . . .   | TONKINENSIS var. CECROPIAE | No. 17.    |
| Irenina.   |                            |            |
| 3103. 4230, on <i>Rutaceae</i> . . . .   | obesa                      | No. 15.    |
| 3101. 4210 . . . . .   | RETICULATA                 | No. 44.    |
| 3101. 3220, on <i>Piperaceae</i> . . .   | glabroides                 | No. 72.    |
| Meliola.   |                            |            |
| 3411. 4221 . . . . .   | MICROTRICHA                | No. 36.    |
| 3131. 5332 . . . . .   | SOROCEAE                   | No. 130.   |
| 3111. 5322, <i>S. obtuse</i> or <i>acute</i> .   | ARTOCARPIAE                | No. 393.   |
| 3111. 4333, <i>S. acute</i> . . . . .  | FICIUM                     | No. 422.   |
| 3111. 4221, <i>S. acute</i> . . . . .  | ERIOPHORA                  | No. 453.   |
| On <i>Artocarpus</i> , <i>Cecropia</i> , <i>Coussapoa</i> , <i>Ficus</i> , <i>Olmedia</i> , <i>Sorocea</i> . |                            |            |
| 65. On <i>Urticaceae</i> .   |                            |            |
| Irenina.   |                            |            |
| 3101. 4220 . . . . .   | TREMAE                     | No. 46.    |
| 3101. 4230, on <i>Cucurbitaceae</i> .  | triloba                    | No. 93.    |
| Meliola.   |                            |            |
| 3111. 3121, <i>S. obtuse</i> or <i>acute</i> .   | EARLII                     | No. 398.   |
| 3111. 3221, <i>S. obtuse</i> or <i>acute</i> .   | THOMASIANA                 | No. 406.   |

- Leptomeliola.  
 2111. 3231 . . . . . LEUCOSYKEAE No. 5.  
 On Elatostema, Leucosyke, Pilea, Pipturus, Trema, Myriocarpa.
66. On Proteaceae.  
 Irenopsis.  
 3401. 4230 . . . . . RUPALAE No. 10.  
 Meliola.  
 2111. 6341 . . . . . LANOSA No. 14.  
 On Lomatia, Grevillea, Rupala.
67. On Loranthaceae.  
 Meliola.  
 3133. 6322 . . . . . LORANTHI No. 86.  
 3121. 5222 . . . . . ARCUATA No. 198.  
 3111. 3211, S. obtuse . . . . . CATUBIGENSIS No. 317.  
 3111. 4231, S. obtuse . . . . . VISCI No. 384.  
 3111. 5221, on Santalaceae, S.  
     acute . . . . . polytricha No. 430.  
 3111. . . . . amphitricha Exc.  
 On Loranthus, Viscum.
69. On Santalaceae.  
 Meliolina.  
 3100. 6440 . . . . . MEGALOSPORA No. 3.  
 Meliola.  
 3142. 4232 . . . . . BIFIDA No. 45.  
 3113. 4222, on Opiliaceae . . . champereiae No. 224.  
 3111. 5221, S. obtuse . . . . . EXOCARPIAE No. 290.  
 3111. 53-- . . . . . POLYTRICHA var. ABYSSINICA No. 291.  
 3111. 5221 . . . . . POLYTRICHA No. 430.  
 On Exocarpus, Jodina, Osyris, Osyridicarpus.
71. On Opiliaceae.  
 Meliola.  
 3143. 4231 . . . . . AGONANDRAE No. 40.  
 3142. 4231 . . . . . OPILIAE No. 145.  
 3113. 4222 . . . . . CHAMPEREIAE No. 224.  
 On Agonandra, Champereia, Opilia.
74. On Aristolochiaceae.  
 Meliola.  
 3113. 4232, on host ind. . . . . ludibunda No. 220.  
 3111. 3242, on Labiatae, S. obtuse . . . . . ambigua No. 348.  
 3111. 4223, S. obtuse or acute . . . . . ARISTOLOCHIAE No. 392.  
 3111. 4331, S. acute . . . . . ATRICAPILLA No. 454.  
 3111. 3221 . . . . . ARISTOLOCHIICOLA No. 455.  
 On Aristolochia.

## 77. On Polygonaceae.

## Irenopsis.

3401. 3220 . . . . .	: RECTANGULARIS	No. 22.
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## Meliola.

31 $\frac{1}{2}$ 1. 5233 . . . . .	PANAMENSIS	No. 181.
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3112. 3223 . . . . .	ANGUSTA	No. 247.
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3112. 5333, on Lauraceae . . .	praetervisa	No. 253.
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3111. 3221, S. obtuse . . . . .	COCCOLOBIS	No. 315.
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3111 . . . . .	amphitricha Exc.	
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## On Coccoloba.

## 80. On Nyctaginaceae.

## Meliola.

2111. 4231, on Myrtaceae . . .	pulchella	No. 11.
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3111. 4221, on Moraceae, S. acute .	eriophora	No. 453.
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## On Pisonia.

## 83. On Phytolaccaceae.

## Meliola.

31 $\frac{1}{2}$ 1. 3121, on Leguminosae . .	perexigua	No. 143.
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3113. 4223 . . . . .	INCOMPTA	No. 222.
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3111. 4232, S. acute . . . . .	MOLFINOI	No. 452.
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3111 . . . . .	amphitricha Exc.	
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## On Achatocarpus, Petiveria, Phytolacca.

## 91. On Ranunculaceae.

## Meliola.

3141. 4231, on Palmae . . . . .	furcata	No. 65.
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3111. 4222, S. obtuse . . . . .	KNOWLTONIAE	No. 379.
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## On Clematis, Knowltonia.

## 94. On Menispermaceae.

## Meliola.

31 $\frac{1}{2}$ 1. 4232, on Apocynaceae . .	intermedia	No. 201.
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3111. 3223, S. acute . . . . .	BANGUIENSIS	No. 437.
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## On Genera indet.

## 95. On Magnoliaceae.

## Irene.

3201. 4230, on Araliaceae . . .	araliae	No. 13a.
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## Irenina.

3101. 6420 . . . . .	CRUSTACEA	No. 96.
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## Meliola.

3431. 5324 . . . . .	DIPLOCHAETA	No. 19.
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31 $\frac{1}{2}$ 1. 5223 . . . . .	MAGNOLIAE	No. 175.
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3111. 6332, S. obtuse . . . . .	CORALLINA	No. 310.
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3111. 6332 . . . . .	CORALLINA var. JAVANICA	No. 311.
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3111 . . . . .	amphitricha Exc.	
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## On Drymis, Magnolia, Talauma, Genera indet.

## 98. On Anonaceae.

## Irenina.

3101. 5330, on Boraginaceae . .	longipoda	No. 58.
3101. 4230, on Rubiaceae . . .	glabra	No. 66.
3101. 3220, on Piperaceae . . .	glabroides	No. 72.

## Meliola.

3111. 4232 . . . . .	VARICUSPIS	No. 164.
3112. 3231, on Convolvulaceae .	malacotricha	No. 243.
3111. 3221, S. obtuse . . . . .	ANONAE	No. 274.
3111. 3222, S. obtuse . . . . .	POPOWIAE	No. 283.
3111. 3221, S. obtuse . . . . .	ANONACEARUM	No. 299.
3111. 5332, S. obtuse . . . . .	XYLOPIAE	No. 360.
3111. 5223, S. acute . . . . .	BORNEENSIS	No. 461.

## Leptomeliola.

3103. 3130 . . . . .	JAVENSIS	No. 4.
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## Meliolinopsis.

2111. 4132 . . . . .	UVARIAE	No. 6.
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On Anona, Guatteria, Popowia, Uvaria, Xylopia, Anonaceae indet.

## 99. On Myristicaceae.

## Meliola.

3121. 4222 . . . . .	UNCINATA	No. 199a.
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## On Horsfieldia.

## 101. On Monimiaceae.

## Meliola.

3111. 5334 . . . . .	MEGALOAETHA	No. 153.
3112. 4233 . . . . .	RIGIDA	No. 256.
3111. 3222, S. acute . . . . .	MOLLINEDIAE	No. 471.

On Kibara, Mollinedia, Xymalos.

## 102. On Lauraceae.

## Amazonia.

3101. 5340 . . . . .	PHILIPPINENSIS	No. 4.
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## Meliolina.

3110. 4221 . . . . .	PHILIPPINENSIS	No. 8.
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## Irenopsis.

3401. 4220 . . . . .	OCOTEAE	No. 18.
3401. 6340 . . . . .	MARTINIANA	No. 28.

## Irenina.

2101. 4220, on Myricaceae . . .	manca	No. 6.
3101. 3220, on Bignoniaceae . .	arachnoidea	No. 45.
3101. 3220, on Piperaceae . . .	glabroides	No. 72.
3101. 5220 . . . . .	CALVA	No. 76.
3101. 4320 . . . . .	PERSEAE	No. 77.



## Meliola.

3141. 4322 . . . . .	CALOCHAETA	No. 60.
3131. 4221, on Bignoniaceae . .	bidentata	No. 116.
3141. 5323 . . . . .	LITSEAE	No. 156.
3121. 5332 . . . . .	UNCITRICA	No. 194.
3121. 6332 . . . . .	DREPANOCHAETA	No. 195.
3113. 4232 . . . . .	SACCARDOI	No. 228.
3112. 3221, on Verbenaceae . .	cookeana	No. 240.
3112. 4233, on Rutaceae . . . .	peleae	No. 251.
3112. 5333 . . . . .	PRAETERVISA	No. 253.
3111. 6334, S. obtuse . . . . .	MAGNA	No. 335.
3111. 22-1, S. obtuse or acute .	ZIG-ZAG var. DISCRETA	No. 407.
3111. 4222, S. acute . . . . .	ZIGZAG	No. 412.
3111. 3222, S. acute . . . . .	OCOTEICOLA	No. 465.
3111. 5232, S. acute . . . . .	CRYPTOCARYAE	No. 492.
3111. 6323 . . . . .	SETULIFERA	No. 498.
3111. 3222 . . . . .	ACUTISETA	No. 499.
3111 . . . . .	amphitricha Exc.	

## Meliolinopsis.

3111. 4221 . . . . .	ANOMALA	No. 10.
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On Cinnamomum, Cryptocarya, Goeppertia, Litsea, Nectandra, Ocotea, Persea, Phoebe, Ullolitse, Genera indet.

## 105. On Cruciferae.

## Meliola.

3131. 2221, on Bignoniaceae . .	dentifera	No. 103.
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## On Arabis.

## 107. On Capparidaceae.

## Irenopsis.

3401. 4220, on Rutaceae . . . .	bosciae	No. 13.
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## On Boscia, Maerua.

## 117. On Saxifragaceae.

## Meliola.

3143. 3221 . . . . .	CHORISTYLIS	No. 43a.
3112. 3221 . . . . .	CYLINDROPHORA	No. 267.
3111. 4222, on Piperaceae, S. acute .	stenospora	No. 477.

## On Itsea, Choristylis.

## 118. On Pittosporaceae.

## Meliola.

3111. 4232, on Bignoniaceae, S.		
acute . . . . .	lanceolato-setosa	No. 428.
3111. 5221, on Santalaceae, S.		
acute . . . . .	polytricha	No. 430.
3111. 4221, S. acute . . . . .	ELMERI	No. 450.

## On Pittosporum.

## 120. On Cunoniaceae.

## Meliola.

3111. 5221, on Santalaceae, S.

acute . . . . . polytricha

No. 430.

On Cunonia.

## 123. On Hamamelidaceae.

## Irenina.

3101. 3230 . . . . . SCABRA

No. 75.

## Meliola.

3111. 6342, S. acute . . . . . TORTA

No. 486.

On Trichocladus.

## 126. On Rosaceae.

## Irene.

2201. 4220 . . . . . CALOSTROMA

No. 7.

## Irenina

2101. 4230 . . . . . SANGUINEA

No. 5.

2101. 4220, on Myricaceae . . . manca

No. 6.

3101. 4230 . . . . . PRUNICOLA

No. 63.

## Meliola.

3112. 3231 . . . . . GLABRIUSCULA

No. 271.

On Acaena, Cliffortia, Geum, Leucosidea, Photinia, Prunus, Pygeum.

Rosa, Rubus.

## 127. On Connaraceae.

## Meliola.

3111. 5323, S. obtuse or acute . CONNARIAE

No. 403.

3111. 4323, S. obtuse or acute . ROUREAE

No. 404.

On Connarus, Rourea.

## 128. On Leguminosae.

## Irene.

2201. 4220, on Rosaceae . . . . . calostroma

No. 7.

## Irenopsis.

3403. 3220 . . . . . INGAE

No. 3.

3401. 3220 . . . . . CHAMAECHRISTICOLA

No. 21.

3301. 3230, on Piperaceae . . . tortuosa

No. 39.

3301. 3220 . . . . . TORULOIDEA

No. 44.

## Irenina.

3101. 3220 . . . . . MEIBOMIAE

No. 35.

3101. 3220, on Labiatae . . . . . anastomosans

No. 43.

3101. 3220, on Bignoniaceae . . . arachnoidea

No. 45.

3101. 3220 . . . . . LONCHOCARPI

No. 50.

3101. 4220 . . . . . GESUITICA

No. 51.

3101. 4230 . . . . . INGAEICOLA

No. 52.

3101. 3210 . . . . . CUBITELLA

No. 65.

3101. 5220 . . . . .	HYMENAEICOLA	No. 67.
3101. 5220 . . . . .	CUBITORUM	No. 86.
3101. 3230 . . . . .	PSEUDANASTOMOSANS	No. 99.
Meliola.		
3142. 3221 . . . . .	CHAGRES	No. 47.
3141. 3221 . . . . .	JURUANA	No. 48.
3133. 4221 . . . . .	PELLUCIDA	No. 77.
3133. 4221 . . . . .	BICORNIS	No. 78.
3133. 4221 . . . . .	BICORNIS var. CALOPOGONII	No. 79.
3133. 3222 . . . . .	BICORNIS var. AMERIMNI	No. 80.
3131. 3223 . . . . .	BICORNIS var. TEPHROSIAE	No. 81.
3133. 3223 . . . . .	BICORNIS var. MILLETTIAE	No. 82.
3133. 4221 . . . . .	BICORNIS var. ROBINSONII	No. 83.
3132. 4231, on Bignoniaceae . . .	harioti	No. 96.
3131. 4222 . . . . .	DENTICULATA	No. 99.
3131. 3222 . . . . .	CRENATISSIMA	No. 100.
3131. 3221 . . . . .	CRISTATA	No. 101.
3131. 3223 . . . . .	TRINIDADENSIS	No. 110.
3131. 3211 . . . . .	DIPHYSAE	No. 111.
3131. 4233 . . . . .	ZOLLINGERI	No. 112.
3131. 3221 . . . . .	ZOLLINGERI var. MINOR	No. 113.
31 $\frac{2}{3}$ 1. 3221 . . . . .	HETEROCEPHALA	No. 136.
31 $\frac{1}{3}$ 3. 2121 . . . . .	MIMOSICOLA	No. 137.
31 $\frac{1}{3}$ 3. 3223 . . . . .	TERAMNI	No. 138.
31 $\frac{1}{3}$ 3. 2212 . . . . .	SCHIZOLOBII	No. 139.
31 $\frac{1}{3}$ 3. 3212 . . . . .	TOUNATEAE	No. 140.
31 $\frac{1}{3}$ 3. 3121 . . . . .	PEREXIGUA	No. 143.
31 $\frac{1}{3}$ 3. 4222 . . . . .	BICORNIS var. GALACTIAE	No. 144.
31 $\frac{1}{3}$ 1. 3222 . . . . .	LONCHOCARPICOLA	No. 158.
31 $\frac{1}{3}$ 1. 3221 . . . . .	POLYODONTA	No. 167.
31 $\frac{1}{3}$ 1. 322- . . . . .	BICORNIS var. HETEROTRICHA	No. 177.
31 $\frac{1}{3}$ 1. 6332 . . . . .	CASTANHA	No. 178.
3121. 4232, on Musaceae . . .	musae	No. 186.
3121. 4232 . . . . .	PAZSCHKEANA	No. 190.
3113. 4221 . . . . .	CONSTIPATA	No. 209.
3113. 4231 . . . . .	KOAE	No. 210.
3113. 4121 . . . . .	DESMODII	No. 217.
3113. 4222 . . . . .	ABRUPTA	No. 218.
3113. 4221 . . . . .	PITHECOLOBIICOLA	No. 219.
3113. 4232, on unknown host . .	ludibunda	No. 220.
3112. 3131 . . . . .	CONIGERA	No. 237.
3112. 3221 . . . . .	AETHIOPS	No. 238.
3112. 3231 . . . . .	ACACIARUM	No. 239.
3112. 322 $\frac{1}{2}$ , on Verbenaceae . .	cookeana	No. 240.

3112. 3231, on Convolvulaceae .	malacotricha	No. 243.
3112. 3221 . . . . .	CONICA	No. 245.
3112. 3221 . . . . .	ANDIRAE	No. 260.
3112. 3221 . . . . .	ANDIRAE var. PUTTEMANSII	No. 261.
3112. 3221, on Saxifragaceae . .	cylindrophora	No. 267.
3112. 42-3 . . . . .	INOCARPI	No. 268.
3111. 3221, on Convolvulaceae,		
S. obtuse . . . . .	clavulata	No. 276.
3111. 3222, S. obtuse . . . . .	MEIBOMIAE	No. 284.
3111. 3221, S. obtuse . . . . .	PITHECOLOBII	No. 285.
3111. 4231, S. obtuse . . . . .	GLEDITSCHIAE	No. 339.
3111. 3221, S. obtuse . . . . .	HOLOCALICIS	No. 340.
3111. 4222, S. obtuse . . . . .	ERYTHRINAE	No. 341.
3111. 3211, S. obtuse . . . . .	CALOPOGONII	No. 351.
3111. 3111, S. obtuse . . . . .	SUBTORTUOSA	No. 374.
3111. 3221, S. obtuse . . . . .	CHAMAECHRISTAE	No. 378.
3111. 4232, S. obtuse . . . . .	TAMARINDI	No. 383.
3111. 3223, S. acute . . . . .	BANOSENSIS	No. 416.
3111. 3221, S. acute . . . . .	GLIRICIDIAE	No. 417.
3111. 3221, S. acute . . . . .	PTEROCARPIAE	No. 418.
3111. 4232, on Sapindaceae. S.		
acute . . . . .	parenchymatica	No. 427.
3111. 5221, on Santalaceae, S.		
acute . . . . .	polytricha	No. 430.
3111. 3222, S. acute . . . . .	BATAANENSIS	No. 464.
3111. 5222, S. acute . . . . .	RUDOLPHIAE	No. 493.
3111 . . . . .	amphitricha Exc.	

## Meliolinopsis.

3122. 3221 . . . . .	CURVISETA	No. 9.
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On Acacia, Amerimnum Andira, Baphia, Bauhinia, Berlinia, Bradburia, Caesalpinia, Calopogonium, Cassia, Centrosema, Chamaecrista, Clitoria, Collaea, Dalbergia, Derris, Desmodium (Meibomia), Dimorphandra, Dioclea, Diphysa, Dolicholus, Entada, Erythrina, Galactia, Gleditschia, Gliricidia, Holocalyx, Hymenaea, Indigofera, Inocarpus, Lonchocarpus, Millettia, Mimosa, Ormocarpum, Pentaclethra, Phanera, Phaseolus, Pithecolobium, Psoralea, Pterocarpus, Pueraria, Rudolphia, Schizolobium, Sclerolobium, Tamarindus, Tephrosia, Terammus, Tounatea, Wenderothia, Zollernia, Genera indet.

## 135. On Zygophyllaceae.

## Meliola.

3111. 5212, on Rubiaceae . . .	woodiana	No. 371.
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## Irene.

3201. 4230, on Araliaceae . . .	araliae	No. 13a.
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## On Guaiacum.



## 137. On Rutaceae.

## Amazonia.

3133. 3232 . . . . .	BUTLERI	No. 9.
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## Irene.

3201. 4230, on Araliaceae . . .	araliae	No. 13a.
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## Irenopsis.

3401. 4220 . . . . .	BOSCIAE	No. 13.
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3401. 4220, on Malvaceae . . .	molleriana	No. 30.
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## Irenina.

3103. 4230 . . . . .	OBESA	No. 15.
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3101. 4230 . . . . .	FAGARICOLA	No. 53.
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3101. 5330, on unknown host . . .	tomentosa	No. 68.
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3101. 3220, on Piperaceae . . .	glabroides	No. 72.
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3101. 5330 . . . . .	TRACHYLAENA	No. 85.
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## Meliola.

2111. 4233, on unknown host . . .	guaranitica	No. 13.
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3411. 5334 . . . . .	JUDDIANA	No. 32.
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3141. 4231 . . . . .	PATENS	No. 55.
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3141. 5222 . . . . .	TENELLA	No. 56.
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3141. 4231, on Palmae . . . . .	furcata	No. 65.
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3141. 5331 . . . . .	BAMBUSAE var. ATALANTIAE	No. 74.
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3131. 4232 . . . . .	GALIPEAE	No. 119.
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3131. 5221 . . . . .	EVODIAE	No. 120.
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3131. 4223 . . . . .	CITRICOLA	No. 121.
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3123. 4232 . . . . .	ATERRIMA	No. 184.
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3113. 3223 . . . . .	CADIGENSIS	No. 204.
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3113. 5332 . . . . .	MONENSIS	No. 211.
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3113. 4232, on unknown host . . .	ludibunda	No. 220.
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3112. 4233 . . . . .	PELEAE	No. 251.
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3112. 5332 . . . . .	TODDALIAE	No. 258.
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3111. 3221, S. obtuse . . . . .	MONNIERIAE	No. 295.
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3111. 4333, S. obtuse . . . . .	MACROPODA	No. 296.
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3111. 5332, S. obtuse . . . . .	THUEMENIANA	No. 375.
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3111. 5224, S. acute . . . . .	PILOCARPI	No. 460.
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3111. . . . .	amphitricha	Exc.
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On Amyris, Atalantia, Aurantiaceae (?), Balfourodendron, Barosma, Casimiroa, Citrus, Evodia, Fagara, Galipea, Glycosmis, Helietta, Lunasia, Monnieria, Murraya, Pelea, Pilocarpus, Toddalia, Zanthoxylon, Rutaceae indet.

## 138. On Simarubaceae.

## Irenina.

3101. 3220, on Piperaceae . . .	glabroides	No. 72
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## Meliola.

3141. 6332, on unknown host . . .	balansae	No. 202.
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3112. 4222, on Celastraceae . . . falcatiseta . . . No. 270.

3111. 4232, *S. acute* . FLACATISETA var. ALTERNIPES No. 449.

On Castela, Picramnia, Simaruba, Simaba.

139. On Burseraceae.

Irenina.

3101. 3220, on Piperaceae . . . glabroides . . . No. 72.

Meliola.

3131. 4223, on Leguminosae . . . evanida . . . No. 114.

3131. 5322 . . . . . PROTHI . . . No. 128.

3131. 4222 . . . . . BURSERACEARUM . . . No. 129.

3111. 4222, *S. obtuse* or *acute* . CANARI . . . No. 401.

3111, on Malvaceae . . . . . amphitricha Exc.

On Canarium, Hedwigia, Icica, Protium, Tetragastris.

140. On Meliaceae.

Irene.

3201. 4230, on Araliaceae . . . araliae . . . No. 13a.

Irenina.

3103. 4220, on Sapindaceae . . . wrightii . . . No. 12.

3103. 4230, on Rutaceae . . . obesa . . . No. 15.

3102. 5340, on unknown host . laevis . . . No. 18.

3101. 2220 . . . . . SANDORICI . . . No. 54. -

3101. 3220, on Piperaceae . . . glabroides . . . No. 72.

Meliola.

3141. 5332 . . . . . BANAHAENSIS . . . No. 173. -

3113. 4222 . . . . . ATRO-VELUTINA . . . No. 231. -

3113. 3223 . . . . . PARVULA . . . No. 232. -

3112. 3231, on Convolvulaceae . malacotricha . . . No. 243.

3112. 3222 . . . . . OPPOSITA . . . No. 254. -

3111. 5333, *S. obtuse* . . . . . PLATYSPERMA . . . No. 330. -

3111. 4222, *S. obtuse* . . . . . OBVALLATA . . . No. 331. -

3111. 4222, *S. obtuse* . . . . . LEPTOCHAETA . . . No. 332. -

3111. 4222, on Lauraceae, *S. acute* . zig-zag . . . No. 412.

3111. 3121 . . . . . GUAREICOLA . . . No. 434. -

3111. 4223, *S. acute* . . . . . TRICHILICOLA . . . No. 435. -

3111. 4223, *S. acute* . . . . . GUAREAE . . . No. 458. -

3111. 4233, *S. acute* . . . . . PARASITICA . . . No. 481. -

3111. 5232, *S. acute* . . . . . SINUOSA . . . No. 483. -

3111. . . . . amphitricha Exc.

On Aglaia, Amoora, Cabralea, Dysoxylum, Guarea, Sandoricum,  
Trichilia, Vavaea, Genera indet.

141. On Malpighiaceae.

Irenopsis.

3401. 3220, on Polygonaceae . . . rectangularis . . . No. 22.

3301. 5220, on Piperaceae . . . tortuosa . . . No. 39.

## Irenina.

3101. 4230, on Rubiaceae . . . glabra No. 66.

## Meliola.

3111. 4231 . . . . . STUHLMANNIANA No. 16.  
 3412. 3222 . . . . . BYRSONIMINA No. 23.  
 3133. 6222 . . . . . CRENATA No. 87.  
 3131. 3222 . . . . . CRENATO-FURCATA No. 107.  
 3131. 4221, on Bignoniaceae . . bidentata No. 116.  
 3141. 5221 . . . . . XENODERMA No. 168.  
 3111. 4223, S. obtuse . . . . . BYRSONIMICOLA No. 308.  
 3111. 5223, S. obtuse or acute . BYRSONIMAE No. 400.  
 3111. 3221, on Bignoniaceae, S.  
     acute . . . . . brasiliensis No. 414.

On Acridocarpus, Banisteria, Bunchosia, Byrsonima, Stigmatophyllon.  
 Malpighia, Malpighiaceae indet.

## 142. On Trgoniaceae.

## Irenopsis.

3401. 4220, on Malvaceae . . . molleriana No. 30

## On Trgonia.

## 145. On Polygalaceae.

## Irenina.

3101. 3220 . . . . . MONNINAE No. 24.

## On Monnina.

## 147. On Euphorbiaceae.

## Amazonia.

3102. 3220 . . . . . ACALYPHAE No. 3.  
 3101. 3240, on Piperaceae . . . asterinoides No. 7

## Irene.

3201. 4220 . . . . . LARVIFORMIS No. 11.  
 3201. 5220 . . . . . LARVIFORMIS var. ARECIBENSIS No. 12.  
 3201. 5330 . . . . . CORNU-CAPRAE No. 14.

## Irenopsis.

3301. 3210 . . . . . CROTONIS No. 42.

## Irenina.

3103. 3220 . . . . . DALECHAMPIAE No. 11.  
 3101. 3210 . . . . . ALCHORNEAE No. 26.  
 3101. 4230 . . . . . VERRUCOSA No. 47.  
 3101. 4230, on Rubiaceae . . . glabra No. 66.  
 3101. 3220 . . . . . SUBAPODA No. 87.

## Meliola.

2113. 3222 . . . . . INSIGNIS No. 3.  
 3141. 4221 . . . . . CROTONICOLA No. 71.  
 3141. 3122 . . . . . ALCHORNEAE No. 152.  
 3121. 5222 . . . . . CLUYTIAE No. 193a.

311. 4232, on Apocynaceae . . .	intermedia	No. 201.
3113. 5232 . . . . .	CLADOPHAGA	No. 205.
3113. 4221, on Leguminosae . . .	constipata	No. 209.
3113. 3221 . . . . .	MANIHOTICOLA	No. 212.
3112. 3231, on Convolvulaceae . .	malacotricha	No. 243.
3112. 3221 . . . . .	BRACHYPODA	No. 255.
3112. 3223 . . . . .	LUZONENSIS	No. 264.
3111. 3221, S. obtuse . . . . .	RAMOSII	No. 293.
3111. 3221 . . . . .	LONGISPORA	No. 294.
3111. 3221, S. obtuse . . . . .	GYMNANTHICOLA	No. 328.
3111. 3211, S. obtuse . . . . .	GYMNANTHICOLA var. MANIHOT.	No. 329.
3111. 4232, S. obtuse . . . . .	COLLIGUAJAE	No. 338.
3111. 3242, on Labiatae, S. obtuse .	ambigua	No. 348.
3111. 4212, S. obtuse . . . . .	EUPHORBIAE	No. 362.
3111. 4223, S. obtuse . . . . .	SAUROPICOLA	No. 386.
3111. 4231, S. obtuse . . . . .	HEVEAE	No. 391.
3111. 3221, S. acute . . . . .	JATROPHAE	No. 441.
3111. 3221, S. acute . . . . .	MORBOSA	No. 442.
3111. 5222, on Anacardiaceae, S. acute . . . . .	irradians	No. 466.
3111. 5322, S. acute . . . . .	MACARANGAE	No. 487.
3111. 4222, S. acute . . . . .	HIPPOMANEAE	No. 488.
3111. 3222, S. acute . . . . .	EXCOECARIAE	No. 490.
On Acalypha, Alchornea, Antidesma, Claoxylon, Colliguaja, Croton, Dalechampia, Drypetes, Euphorbia, Excoecaria, Gymnanthes, Hancea, Hevea, Hippomane, Homonoia, Jatropha, Macaranga, Mallotus, Manihot, Sauropus, Sebastiana, Genera indet.		
153. On Anacardiaceae.		
Amazonia		
3103. 4220 . . . . .	ANACARDIACEARUM	No. 2.
Irenopsis.		
3401. 3220 . . . . .	KENTANIENSIS	No. 14.
3401. 4330, on Tiliaceae . . . .	coronata	No. 15.
3301. 4220 . . . . .	COMOCLADIAE	No. 41.
Meliola.		
3141. 3221 . . . . .	TAPIRIRAE	No. 64.
3141. 4231, on Palmae . . . .	furcata	No. 65.
3141. 3223, on unknown host . .	heterodonta	No. 76.
3133. 4221 . . . . .	WEIGELTII	No. 85.
3131. 4221 . . . . .	ANACARDII	No. 104.
3131. 3221 . . . . .	GENICULATA	No. 105.
3131. 4231 . . . . .	GENICULATA var. MACROSPORA	No. 106.
3131. 4221, on Bignoniaceae . .	bidentata	No. 116.
3131. 4222 . . . . .	OPACA	No. 124.



3131. 4224 . . . . .	MULTISETA	No. 125.
31 $\frac{1}{2}$ 1. 3221 . . . . .	TAPIRIRICOLA	No. 151.
31 $\frac{1}{2}$ 1. 5232 . . . . .	MANGIFERAE	No. 165.
3121. 4232 . . . . .	HAMATA	No. 197.
31 $\frac{1}{2}$ 1. 4232, on Apocynaceae . .	intermedia	No. 201.
3113. 4232, on unknown host .	ludibunda	No. 220.
3113. 4233 . . . . .	PACHYCHAETA	No. 234.
3112. 3221 . . . . .	COOKEANA f. DUVAUAE	No. 241.
3112. 3231, on Convolvulaceae .	malacotricha	No. 243.
3112. 3221 . . . . .	NICARAGUENSIS	No. 265.
3112. 4222, on Celastraceae . .	falcatiseta	No. 270.
3111. 3232, S. obtuse . . . . .	LANIGERA	No. 336.
3111. 4233, S. obtuse . . . . .	CHILENSIS	No. 336 a.
3111. 4223, S. obtuse . . . . .	SEMECARPI	No. 337.
3111. 6333, S. obtuse . . . . .	HOLIGARNAE	No. 382.
3111. 4221, S. obtuse or acute . . . . .	POLYTRICHA var. FLEXUOSISETA	No. 408.
3111. 3221, on Bignoniaceae, S. acute . . . . .	brasiliensis	No. 414.
3111. 5221, on Santalaceae, S. acute	polytricha	No. 430.
3111. 5221, S. acute .	POLYTRICHA var. ANACARDIACEAE	No. 431.
3111. 5222, S. acute . . . . .	IRRADIANS	No. 466.
3111. 4231, S. acute . . . . .	LOXOSTYLIDIS	No. 467.
3111. 4232, S. acute . . . . .	RHOIS	No. 494.
3111 . . . . .	amphitricha Exc.	
On Anacardium, Astronium, Buchanania, Comocladia, Dodonaea, Dracontomelon, Duvaua, Harpophyllum, Holigarna, Lithraea, Loxo- stylis, Mangifera, Mauria, Odina, Rhus, Schinus, Sebastania, Seme- carpus, Spondias, Tapirira, Terebinthe, Anacardiaceae indet.		
157. On Aquifoliaceae.		
Irene.		
3201. 4230 on Araliaceae . . .	araliae	No. 13a.
Irenopsis.		
3401. 4220 . . . . .	MARICAENSIS	No. 6.
Irenina.		
3101. 6330 . . . . .	LAGERHEIMII	No. 83.
Meliola.		
21—, 632— . . . . .	ILICIS	No. 15.
3121. 4221, on Myrtaceae . . .	densa	No. 192.
3111. 4321, S. obtuse . . . . .	YERBAE	No. 350.
On Ilex.		
158. On Celastraceae.		
Actinodothis.		
2101. 4240 . . . . .	PERROTTETIAE	No. 1.

## Amazonia.

2101. 4220 . . . . . PERROTTETIAE No. 1.

## Irene.

2201. 6330 . . . . . SPECIOSA No. 5.

2201. 4240 . . . . . GLORIOSA No. 6.

## Irenopsis.

3401. 4230 . . . . . COMPACTA No. 11.

## Irenina.

3102. 5340, on unknown host . . laevis No. 18.

3101. 5340 . . . . . DITRICA No. 88.

3101. 3220 . . . . . GYMNOSPORIAE No. 89.

## Meliola.

2111. 5232 . . . . . EVANSII No. 8.

3112. 4222 . . . . . FALCATISETA No. 270.

3111 . . . . . amphitricha Exc.

On Celastrus, Crossopetalum, Elaeodendron, Gymnosporia, Maytenus,  
Moya, Mystroxydon, Perrottetia, Pleurostyliia.

## 159. On Hippocrateaceae.

## Meliola.

2111. 4232, on Cornaceae . . . ganglifera No. 10.

2111. 4221, on Staphyleaceae . . . oligomera No. 12.

2111. 4233, on unknown host . . . guaranitica No. 13.

3111. 4221, S. acute . . . . . MONTAGNEI No. 433.

3111 . . . . . amphitricha Exc.

On Hippocratea, Salacia.

## 161. On Staphyleaceae.

## Irenopsis.

2401. 6340, on unknown host . . . guignardi No. 1.

2401. 5230 . . . . . PORTORICENSIS No. 2.

## Meliola.

2111. 4221 . . . . . OLIGOMERA No. 12.

On Turpinia.

## 162. On Icacinaceae.

## Irenopsis.

3401. 5230 . . . . . COMATA No. 26.

## Meliola.

2111. 6332 . . . . . VILLARESIAE No. 5.

2111. 5232 . . . . . CAMPYLOTRICA No. 6.

3121. 4242 . . . . . CLADOPHILA No. 184.

3111. 4233, S. acute . . . . . VILLARESIIICOLA No. 448.

On Apodytes, Pyrenacantha, Villaresia.

## 165. On Sapindaceae.

## Irene.

3201. 4230, on Araliaceae . . . araliae No. 13a.

## Irenopsis.

3401. 3220 . . . . .	CUPANIAE	No. 8.
3401. 3220 . . . . .	ARANEOSA	No. 9.
3401. 4330, on Tiliaceae . . . .	coronata	No. 15.

## Irenina.

3103. 4220 . . . . .	WRIGHTII	No. 12.
3103. 4230, on Rutaceae . . . .	obesa	No. 15.
3102. 3220 . . . . .	BONPLANDI	No. 16.
3101. 4230, on Rubiaceae . . . .	glabra	No. 66.
3101. 3220, on Piperaceae . . . .	glabroides	No. 72.

## Meliola.

2111. 4233, un unknown host . .	guaranitica	No. 13.
3413. 4222 . . . . .	ACROTRICHA	No. 22.
3133. 4221, on Leguminosae . .	bicornis	No. 78.
3133. 4222, on Anacardiaceae . .	weigelti	No. 85.
3133. 3322 . . . . .	SAPINDACEARUM	No. 88.
3132. 3221 . . . . .	SERJANIICOLA	No. 91.
3132. 4221 . . . . .	ODONTOCEPHALA	No. 92.
3131. 4222, on Piperaceae . . . .	patouillardi	No. 109.
3131. 3222 . . . . .	PAULLINIAE var. DENTATA	No. 118.
3131. 4223 . . . . .	SAPINDI	No. 127.
31 $\frac{1}{2}$ 3. 4221 . . . . .	VARIASETA	No. 141.
31 $\frac{1}{2}$ 3. 2223 . . . . .	NEPHELI	No. 142.
31 $\frac{1}{2}$ 2. 3222 . . . . .	CAPENSIS	No. 146.
31 $\frac{1}{2}$ 1. 3221 . . . . .	COMMIXTA	No. 169.
21 $\frac{1}{2}$ 1. 4222 . . . . .	FURCILLATA	No. 172.
3113. 4232 . . . . .	LYONI	No. 203.
3113. 3222 . . . . .	THOUINIAE	No. 233.
3112. 3221 . . . . .	COOKEANA var. MAJOR	No. 242.
3112. 3221 . . . . .	MATAYBAE	No. 246.
3112. 5333, on Lauraceae . . . .	praetervisa	No. 253.
3112. 3221, on Saxifragaceae . .	cylindrophora	No. 267.
3111. 3221, on Euphorbiaceae,		
S. obtuse . . . . .	longispora	No. 294.
3111. 3211, S. obtuse . . . . .	INTEGRISETA	No. 345.
3111. 3221, S. obtuse . . . . .	INTEGRISETA var. STEVENSII	No. 346.
3111. 3221, S. obtuse . . . . .	INTEGRISETA var. LEPISANTHEA	No. 347.
3111. 3242, on Labiatae, S. obtuse	ambigua	No. 348.
3111. 3223, S. obtuse . . . . .	COLLADOI	No. 359.
3111. 3223, S. obtuse . . . . .	EQUADORENSIS	No. 377.
3111. 3221, on Bignoniaceae,		
S. acute . . . . .	brasiliensis	No. 414.
3111. 4232, S. acute . . . . .	PARENCHYMATICA	No. 427.
3111. 3222, S. acute . . . . .	PAULLINIAE	No. 429.

3111.5221, on Santalaceae, S. acute polytricha	No. 430.
3111. 4223, S. acute . . . . . SERJANIAE	No. 472.
3111. 4223, S. acute . . . . . SERJANIAE var. DENTATA	No. 473.
3111. 2222, S. acute : . . . . . OTOPHORAE	No. 474.
3111. 4221, S. acute . . . . . SYDOWIANA	No. 475.
3111. . . . . amphitricha Exc.	

On Allophylus (Schmidelia), Arytera, Cupania, Dodonaea, Guioa, Harpullia, Hippobromus, Hypelate, Lepisanthes, Matayba, Melicocca, Nephelium, Otophora, Paullinia, Sapindus, Serjania, Sideroxylon, Thouinia, Trigonachras, Urvillea, Genera indet.

#### 169. On Rhamnaceae.

Irene.

2201. 5330 . . . . . SPLENDENS	No. 4. carded
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Irenopsis.

3401. 3220, on Cucurbitaceae . . aciculosa	No. 32.
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3401. 3220 . . . . . TENUISSIMA	No. 36. carded
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Irenina.

3101. 3220 . . . . . COLUBRINAE	No. 22.
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Meliola.

3131. 4221, on Bignoniaceae . . bidentata	No. 116.
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3141. 2222 . . . . . RHAMNICOLA	No. 154. carded
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3113. 3222, on Sapindaceae . . thouiniaie	No. 233.
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3112. 3241 . . . . . SCUTIAE	No. 250. carded
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On Alphonitonia, Colubrina, Gouania, Krugiodendron, Scutia, Genera ind.

#### 170. On Vitaceae.

Meliola.

3141. 4331, on Compositae . . . mikaniae	No. 52.
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3141. 3221 . . . . . MERRILLII	No. 61.
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3113. 4222 . . . . . BAKERI	No. 229.
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3111. 3211 . . . . . RIZALENSIS var. PANAMENSIS	No. 320.
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3111. 4232, on Sapindaceae, S. acute parenchymatica	No. 427.
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On Cissus, Rhoicissus, Tetrastigma, Vitis.

#### 171. On Elaeocarpaceae.

Irenina.

3102. 4230 . . . . . AMOENA	No. 17.
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Meliola.

3112. 4232 . . . . . ELAEOCARPEAE	No. 269.
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On Elaeocarpus, Sloanea.

#### 174. On Tiliaceae.

Irenopsis.

3401. 4330 . . . . . CORONATA	No. 15.
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3401. 4220 . . . . . CORONATA var. TRIUMFETAE	No. 16.
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3301. 4220 . . . . . CORONATA var. VANDERYSTII	No. 17.
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3401. 3220, on Cucurbitaceae . . . aciculosa . . . No. 32.  
 3301. 5230, on Piperaceae . . . tortuosa . . . No. 39.
- Irenina.  
 3101. 3220, on Bignoniaceae . . . arachnoidea . . . No. 45.  
 On Triumfetta, Luehea (Luhea).
175. On Malvaceae. (57+)
- Irenopsis.  
 3401. 4220, on Tiliaceae . . . . . coronata var. triumfettae No. 16.  
 3401. 3220 . . . . . BASTARDIOPSISIDIS No. 29.  
 3401. 4220 . . . . . MOLLERIANA No. 30.  
 3401. 3220 . . . . . MOLLERIANA var. SIDICOLA No. 31.
- Meliola.  
 3411. 2121 . . . . . SIDAE No. 29.  
 3111. 2121, on Labiatae, S. obtuse microspora No. 292.  
 3111. 3242, on Labiatae, S. obtuse ambigua No. 348.  
 3111 . . . . . amphitricha Exc.
- On Abutilon, Bastardiopsis, Hibiscus, Malache, Sida, Genera indet.
178. On Sterculiaceae.
- Irenopsis.  
 3401. 4220, on Tiliaceae . . . . . coronata var. triumfettae No. 16.  
 3301. 5230 . . . . . GUIANENSIS No. 43.
- Meliola.  
 3111. 4332, S. obtuse . . . . . PTEROSPERMI No. 380.
- Meliolinopsis.  
 31—, 534— . . . . . TETRADENIAE No. 3.
- On Helicteres, Tetradenia, Theobroma, Pterospermum.
180. On Dilleniaceae.
- Meliolina.  
 2410. 4233 . . . . . MALACENSIS No. 13.
- Irene.  
 3201. 5220, on Compositae . . . . . sororecula No. 8.  
 3201. 4320 . . . . . PAPILLIFERA No. 22.
- Irenina.  
 3101. 3220 . . . . . OBSCURA No. 36.  
 3101. 3220 . . . . . LONGIPEDICELLATA No. 82.
- On Acrotrema, Doliocarpus, Saurauia, Wormia, Dilleneae indet.
182. On Ochnaceae.
- Irenina.  
 3101. 3220, on Piperaceae . . . . . glabroides No. 72.
- Meliola.  
 3111. 3222, S. acute . . . . . OCHNAE No. 447.
- On Ochna, Sauvagesia.

184. On Marcgraviaceae.  
 Irenopsis.  
     3401. 4330 . . . . . RAMONENSIS . . . . . No. 23.  
 Irenina.  
     3101. 3210 . . . . . MARCGRAVIAE . . . . . No. 25.  
 On Marcgravia.
186. On Theaceae.  
 Meliola.  
     3141. 4323 . . . . . THEACEARUM . . . . . No. 159.  
 On Gordonia, Schima.
187. On Guttiferae.  
 Amazonia.  
     3111. 6223 . . . . . CLUSIAE . . . . . No. 10.  
 Irene  
     3201. 4230 . . . . . CALOPHYLLI . . . . . No. 23.  
 Irenina.  
     3101. 3220, on Piperaceae . . . . . glabroides . . . . . No. 72.  
     3101. 4220 . . . . . MANGOSTANA . . . . . No. 49.  
 Meliola.  
     3111. 5233, S. obtuse or acute . . . . . GARCINIAE . . . . . No. 396.  
     3111. 3222, on Sapindaceae S.  
         acute . . . . . paullinae . . . . . No. 429.  
     3111. 423-, on Cannaceae . . . . . velutina . . . . . No. 497.  
 On Garcinia, Calophyllum, Clusia, Mammea, Rheedia, Symphonia,  
 Vismia.
188. On Dipterocarpaceae.  
 Meliola.  
     3411. 3222 . . . . . HOPEAE . . . . . No. 27.  
 On Hopea.
197. On Canellaceae.  
 Meliola.  
     3113. 3222, on Sapindaceae . . . . . thouinia . . . . . No. 233.  
 On Winterana.
198. On Violaceae.  
 Irenopsis.  
     3401. 5230 . . . . . MACROCHAETA . . . . . No. 34.  
 Irenina.  
     3101. 4320 . . . . . RINOREAE . . . . . No. 94.  
 On Alsodeia, Rinorea.
199. On Flacourtiaceae.  
 Irene.  
     2203. 4220 . . . . . NATALENSIS . . . . . No. 1.  
     2203. 4220 . . . . . NATALENSIS var. LAXA . . . . . No. 2.  
     2203. 4320 . . . . . NATALENSIS var. CONFERTA . . . . . No. 3.

## Irenopsis.

3301. 3230 . . . . . CLAVICULATA No. 40.

## Meliola.

2112. 5324 . . . . . TONDUZI No. 4.

2111. 5232, on Celastraceae . . . evansii No. 8.

3133. 3322, on Sapindaceae . . . sapindacearum No. 88.

3111. 4221, S. obtuse . . . . . BANARAE No. 318.

3111. 3242, on Labiatae, S. obtuse . . . . . ambigua No. 348.

3111. 3221, S. obtuse . . . . . XYLOSMAE No. 357.

3111. 3222, on Sapindaceae S. acute . . . . . paullinae No. 429.

3111 . . . . . amphitricha Exc.

On Banara, Barteria, Casearia, Dovyalis, Myroxylon, Oncoba, Scolopia, Xylosma.

## 203. On Passifloraceae. (504)

## Irenopsis.

3401. 4220, on Malvaceae . . . . . molleriana No. 30.

## Meliola.

3111. 5321 . . . . . ARISTATA No. 390.

3111. 4242 . . . . . POLYTRICHA var. PAROPSIAE No. 432.

On Paropsia, Passiflora.

## 205. On Caricaceae. /

## Irenopsis.

3401. 4220, on Malvaceae . . . . . molleriana No. 30.

On Carica.

## 210. On Cactaceae.

## Irene.

3201. 4230, on Araliaceae . . . . . araliae No. 13a.

On Cactus.

## 214. On Thymelaeaceae.

## Amazonia.

3101. 3240, on Piperaceae . . . . . asterinoides No. 7.

## Irenina.

3101. 4220 . . . . . AIBONITENSIS No. 21.

On Daphnopsis, Wikstroemia.

## 216. On Lythraceae.

## Meliolina.

4110. 6221 . . . . . QUERCINOPSIS var. MEGALOSPORA No. 7.

## Meliola.

3111 . . . . . amphitricha, Exc.

On Lythraea.

## 219. On Lecythidaceae. /

## Meliola.

3113. 4232 . . . . . INDICA No. 226.

3113. 4233 . . . . . INDICA var. CAREYAE No. 227.

On Barringtonia, Careya.

220. On Rhizophoraceae.

Meliola.

3113. 4334 . . . . . BRUGUIERAE No. 215.

On Bruguiera.

2101. 4230 . . . . . PEDDIEAE addenda p. 383.

221. On Combretaceae.

Irenina.

3101. 3220 . . . . . LAGUNCULARIAE No. 57.

3101. 4220 . . . . . COMBRETI No. 81.

Meliola.

3111. 4232, on Apocynaceae . . intermedia No. 201.

3111. 4222, S. obtuse . . . . . NIGRA No. 376.

3111. 4222, S. acute . . . . . PELLICULOSA No. 459.

3111. . . . . amphitricha Exc.

On Combretum, Laguncularia, Lumnitzeria, Terminalia.

222. On Myrtaceae.

Amazonia.

3101. 4220 . . . . . OHIANUS No. 6.

3101. 3240, on Piperaceae . . . asterinoides No. 7.

Meliolina.

2440. 5242 . . . . . OCTOSPORA No. 10.

2440. 5242 . . . . . SYDOWIANA No. 11.

2440. 6242 . . . . . MOLLIS No. 12.

2140. 5-32 . . . . . RADIANIS No. 14.

2140. 5242 . . . . . PULCHERRIMA No. 15.

2140. 5342 . . . . . ARBORESCENS No. 16.

2140. 6342, on Myrsinaceae . . cladotricha No. 17.

2110. 5221 . . . . . HAPLOCHAETA No. 18.

Irenina.

3103. 5230 . . . . . VALDIVIENSIS No. 10.

3101. 5320 . . . . . ATRA No. 90.

3101. 4230 . . . . . ZEYHERI No. 91.

3101. 4220 . . . . . ATRICHA No. 100.

Meliola.

2111. 4231 . . . . . PULCHELLA No. 11.

3111-3211 . . . . . HORRIDA No. 37.

3131. 3222 . . . . . HELLERI No. 126.

3121. 4221 . . . . . DENSA No. 192.

3113. 5223 . . . . . AMOMICOLA No. 216.

3113. 2222, on unknown host . rehmi No. 223.

3112. 4224 . . . . . EUGENICOLA No. 266.

3111. 3222, S. obtuse . . . . . OLECRANONIS No. 300.

3111. 5331, S. obtuse . . . . . EUGENIAE No. 322.



3111. 3232, on Anacardiaceae, S.  
 obtuse . . . . . lanigera No. 336.  
 3111. 4222, S. obtuse . . . . . HAWAIIENSIS No. 364.  
 3111. 4221, S. obtuse . . . . . LAXA No. 372.  
 3111. 4222, S. acute . . . . . PSIDII No. 4C9.  
 3111. 3221, on Bignoniaceae, S.  
 acute . . . . . brasiliensis No. 414.  
 3111. . . . . amphitricha Exc.  
 On Amomis, Eucalyptus, Eugenia, Melaleuca, Metrosideros, Myrcia,  
 Psidium, Syzygium, Myrtaceae indet.
223. On Melastomataceae.  
 Irenopsis.  
 3401. 3220 . . . . . MICONIEICOLA No. 19.  
 3401. 4330 . . . . . MICONIAE No. 20.  
 3401. 3220 . . . . . CONOSTEGIAE No. 38.  
 Irenina.  
 3101. 4220 . . . . . SHROPSHIRIANA No. 27.  
 3101. 3220, on Bignoniaceae . . arachnoidea No. 45.  
 3101. 4320 . . . . . HEUDELOTII No. 59.  
 3101. 3220 . . . . . MELASTOMACEARUM No. 60.  
 3101. 3220 . . . . . CLIDEMIAE No. 71.  
 Meliola.  
 3133. 4222, on Anacardiaceae . weigeltii No. 85.  
 3131. 4233 . . . . . AFFINIS No. 157.  
 3111. 5333, S. obtuse . . . . . MEMECYLI No. 281.  
 3111. 3242, on Labiatae, S. obtuse . ambigua No. 348.  
 3111. 3222, S. obtuse . . . . . OLIGOPODA No. 387.  
 3111. 4222, S. obtuse . . . . . BRACHYCERA No. 388.  
 3111. 5221, on Santalaceae, S.  
 acute . . . . . polytricha No. 430.  
 3111. . . . . amphitricha Exc.  
 On Arthrostemma, Clidemia, Conostegia, Leandra, Memecylon, Miconia,  
 Melastomataceae indet.
227. On Araliaceae.  
 Irene.  
 3201. 4230 . . . . . ARALIAE No. 13a.  
 Irenina.  
 3101. 3220, on Piperaceae . . . glabroides No. 72.  
 3101. 6240 . . . . . CHEIRODENDRONIS No. 84.  
 3101. 5340 . . . . . MOROTOTONI No. 97.  
 Meliola.  
 3441. 5321 . . . . . HETEROSETA No. 17.  
 3412. 5332 . . . . . PECTINATA No. 24.  
 3143. 4231 . . . . . DICHOTOMA No. 39.

3141. 4221 . . . . .	LEPTOCLADA	No. 53.
3141. 5231 . . . . .	LEPTIDEA	No. 54.
3141. 4221 . . . . .	BORLAGIODENDRIAE	No. 58.
3141. 4231, on Palmae . . . .	furcata	No. 65.
3141. 3221 . . . . .	KUSANOI	No. 179.
3113. 4233 . . . . .	DIDYMOPANACIS	No. 236.
3111. 4221, S. obtuse . . . .	IROSINENSIS	No. 333.
3111. . . . .	amphitricha Exe.	

On Aralia, Boerlagiodendron, Cheirodendron, Cussonia, Dendropanax,  
Didymopanax, Hedera, Paratropia, Schefflera.

229. On Cornaceae.

Irenina.

3101. 4220 . . . . .	AUCUBAE	No. 38.
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Meliola.

2111. 6232 . . . . .	NIDULANS	No. 7.
2111. 4232 . . . . .	GANGLIFERA	No. 10.
3111. 2223, S. obtuse . . . .	ALANGII	No. 309.
3111. . . . .	amphitricha Exe.	

On Alangium, Aucuba, Cornus, Curtisia, Garrya.

233. On Ericaceae.

Irenina.

2101. 5240 . . . . .	ANDROMEDAE	No. 1.
2101. 5230 . . . . .	EXILIS	No. 8.

Meliola.

2111. 6232, on Cornaceae . . .	nidulans	No. 7.
2111. 533- . . . . .	NISSLEANA	No. 9.
2111. 4231, on Myrtaceae . . .	pulchella	No. 11.
3411. 4133 . . . . .	VACCINII	No. 26.
3411. 5223, on Apocynaceae . .	moerenhoutiana	No. 33.

Leptomeliola.

4101. 4220 . . . . .	CALLOSPERMA	No. 2.
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On Andromeda, Cavendishia, Gaultheria, Gaylussacia, Rhododendron,  
Vaccinium.

236. On Myrsinaceae.

Actinodothis.

3100. 6340 . . . . .	SUTTONIAE	No. 3.
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Amazonia.

3101. 4230 . . . . .	PEREGRINA	No. 5.
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Meliolina.

4110. 3121 . . . . .	QUERCINOPSIS	No. 6.
2140. 6342 . . . . .	CLADOTRICA	No. 17.

Irenopsis.

3401. 4220 . . . . .	PARATHESICOLA	No. 12.
3401. 5320 . . . . .	ARMATA	No. 25.

- Irenina.  
 3101. 6420, on Magnoliaceae . . crustacea No. 96.
- Meliola.  
 3113. 4222 . . . . . GROTEANA No. 214.  
 3112. 4233, s. acute . . . . . TRANSVAALENSIS No. 251a.  
 3111. 5223, S. obtuse . . . . . MYRSINACEARUM No. 358.  
 3111. 5223, S. acute . . . . . ARDISIAE No. 410.  
 3111. 4221, S. acute . . . . . DELICATULA No. 411.  
 3111. 5221, on Santalaceae, S. acute polytricha No. 430.  
 On Ardisia, Maesa, Myrsine, Parathesis, Suttonia, Myrsinaceae indet.
239. On Sapotaceae.  
 Meliola.  
 3113. 3213 . . . . . SIDEROXYLI No. 207.  
 3111. 4223, S. obtuse . . . . . LUCUMAE No. 356.  
 3111. 3221, on Bignoniaceae,  
     S. acute . . . . . brasiliensis No. 414.  
 3111. 4222, S. acute . . . . . DIPHOLIDIS No. 436.  
 3111. 3222, on Lauraceae, S. acute ocoteicola No. 465.  
 On Chrysophyllum, Dipholis, Lucuma, Sideroxylon.
240. On Ebenaceae.  
 Meliola.  
 3112. 5223 . . . . . DIOSPYRI No. 252.  
 3111. 6333 . . . . . MEGALOCARPA No. 355.  
 On Diospyros, Maba.
241. On Styraceae.  
 Irenina.  
 3101. 5330, on unknown host . . tomentosa No. 68.  
 3101. 4240 . . . . . ABERRANS No. 69.  
 Meliola.  
 3112. 3212 . . . . . STYRACEARUM No. 249.  
 3111. 5341, S. obtuse . . . . . STYRACICOLA No. 280.  
 On Styrax.
242. On Symplocaceae.  
 Meliola.  
 3111. . . . . amphitricha Exc.
- On Symplocus.
243. On Oleaceae.  
 Irenina.  
 3101. 5340, on Celastraceae . . ditricha No. 88.  
 Meliola.  
 3121. 4231 . . . . . PETIOLARIS No. 194.  
 3113. 4322 . . . . . OSMANTHI No. 225.  
 3112. 5233 . . . . . GEMELLIPODA No. 248.  
 3111. 3221, S. obtuse . . . . . MAYEPEAE No. 323.

3111. 3221, *S. obtuse* . . . . . MAYEPEICOLA No. 349.  
 3111. 3233, *S. obtuse* . . . . . JASMINICOLA No. 361.  
 3111. 4221, *S. obtuse* or *acute* . TAYABENSIS No. 395.  
 3111. 3211, *S. acute* . . . . . LINOCIERAE No. 443.  
 3111. 4331, *S. acute* . . . . . OLEICOLA No. 444.  
 3111. . . . . amphitricha Exc.  
 On Jasminum, Linociera, Mayepea, Olea, Osmanthus.
245. On Loganiaceae.  
 Amazonia.  
 3101. 3240, on Piperaceae . . . asterinoides No. 7.  
 Irene.  
 3201. 5220, on Compositae . . . sororcula No. 8.  
 3201. 3230 . . . . . INERMIS No. 25.
- Irenina.  
 3101. 3120 . . . . . BUDDLEYICOLA No. 40.  
 3101. 3220, on Bignoniaceae . . arachnoidea No. 45.  
 3101. 4320, on Melastomataceae heudelotii No. 59.  
 3101. 5330 . . . . . IMPLICATA No. 79.  
 3101. 4240 . . . . . OBDUCENS No. 92.
- Meliola.  
 3131. 4223 . . . . . EVANIDA No. 114.  
 3111. 2121, on Labiatae, *S. obtuse* microspora No. 292.  
 3111. 4221, *S. obtuse* . . . . . STRYCHNICOLA No. 327.  
 3111. 4332, *S. acute* . . . . . FAGRAEAE No. 457.  
 3111. 4222, on Piperaceae . . . stenospora No. 477.  
 On Buddleya, Chilianthus, Fagraea, Labordea, Mitra, Nuxia, Spigelia,  
 Strychnos.
246. On Gentianaceae.  
 Meliola.  
 3111. 2121, *S. obtuse* . . . . . LISIANTHI No. 273.  
 On Chelonanthus, Lisianthus.
247. On Apocynaceae.  
 Amazonia.  
 3101. 3240, on Piperaceae . . . asterinoides No. 7.  
 3101. 4220 . . . . . GONIOMAE No. 8.
- Irene.  
 3201. 5220, on Compositae . . . sororcula No. 8.
- Irenina.  
 3102. 4230 . . . . . ASPIDOSPERMATIS No. 20.  
 3101. 4230 . . . . . STROPHANTHI No. 61.  
 3101. 3220 . . . . . ESCHAROIDES No. 62.
- Meliola.  
 3441. 4224 . . . . . WILLOUGHBYAE No. 18.  
 3411. 5233 . . . . . MOERENHOUTIANA No. 33



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| 3141. 3221 . . . . .  | GUAMENSIS                          | No. 69.  |
| 3133. 4221, on Leguminosae . . .  | bicornis                           | No. 78.  |
| 3123. 3222 . . . . .  | WARDII                             | No. 183. |
| 3121. 2231 . . . . .  | DEPRESSULA                         | No. 187. |
| 3141. 4232 . . . . .  | INTERMEDIA                         | No. 201. |
| 3113. 3223 . . . . .  | ISOTHEA                            | No. 206. |
| 3113. 3222 . . . . .  | MODESTA                            | No. 213. |
| 3113. 4222 . . . . .  | LAEVIPODA                          | No. 221. |
| 3111. 2121, on Labiatae, S. obtuse  | microspora                         | No. 292. |
| 3111. 2221, S. obtuse . . . . .   | SIMILLIMA                          | No. 297. |
| 3111. 3222, S. obtuse . . . . .   | MANDEVILLAE                        | No. 298. |
| 3111. 4221, S. obtuse . . . . .   | TABERNAEMONTANAE                   | No. 342. |
| 3111. 4221,<br>S. obtuse  | TABERNAEMONTANAE var. FORSTERONIAE | No. 343. |
| 3111. 3221, S. obtuse . . . . .   | EUOPLA                             | No. 344. |
| 3111. 4223, S. obtuse . . . . .   | CARISSAE                           | No. 381. |
| 3111. 4222, S. acute . . . . .  | FUNTUMIAE                          | No. 423. |
| 3111. 3213, S. acute . . . . .  | BEEBEI                             | No. 424. |
| 3111. 3223, S. acute . . . . .  | AMBOINENSIS                        | No. 425. |
| 3111. 3222, S. acute . . . . .  | TRACHELOSPERMAE                    | No. 439. |
| 3111. 3221, S. acute . . . . .  | ALSTONIAE                          | No. 451. |
| 3111. 4222, S. acute . . . . .  | LAEVIGATA                          | No. 478. |
| 3111 . . . . .  | amphitricha                        | Exc.     |
| Meliolinopsis.  |                                    |          |
| 3411. 4231 . . . . .  | CLAVATISPORA                       | No. 8.   |
| On Aganosma, Alstonia, Alyxia, Aspidosperma, Carissa, Echites, Forsteronia, Gonioma, Funtumia, Holarrhena, Malouetia, Mandevilla, Ochrosia, Oncinotis, Paralstonia, Plumiera, Rauwolfia, Rhabdadenia, Strophanthus, Tabernaemontana, Thevetia, Trachelospermum, Urceola, Willoughbya, Wrightia, Genera indet. |                                    |          |
| 248. On Asclepiadaceae.   |                                    |          |
| Irenopsis.  |                                    |          |
| 3301. 3210, on Euphorbiaceae . .  | crotonis                           | No. 42.  |
| Meliola.  |                                    |          |
| 3131. 4221, on Bignoniaceae . .   | bidentata                          | No. 116. |
| 3131. 4233 . . . . .  | ODONTOCHAETA                       | No. 134. |
| 3141. 4211 . . . . .  | HOYAE                              | No. 155. |
| 3113. 2221 . . . . .  | TELOSMAE                           | No. 230. |
| 3111. 2222, S. acute . . . . .  | PERPUSILLA                         | No. 445. |
| 3111. 3222, S. acute . . . . .  | PERPUSILLA var. CONGOENSIS         | No. 446. |
| On Dischidia, Gonolobus, Hoya, Telosma, Tylophora.  |                                    |          |
| 249. On Convolvulaceae.   |                                    |          |
| Meliola.  |                                    |          |
| 3143. 3221 . . . . .  | PERMIXTA                           | No. 38.  |

3143. 3221 . . . . .	PALLIDA	No. 41.
3141. 3221, on unknown host .	forbesii	No. 50.
3141. 3231 . . . . .	QUADRISPINA	No. 57.
3113. 6231 . . . . .	FRANCEVILLEANA	No. 236.
3112. 3221, on Verbenaceae . .	cookeana	No. 240.
3112. 3231 . . . . .	MALACOTRICHIA	No. 243.
3111. 3221, S. obtuse . . . . .	CLAVULATA	No. 276.
3111. 3222, S. obtuse . . . .	CLAVULATA var. BATATAE	No. 277.
3111. 2231, S. obtuse . . . . .	CAYMANENSIS	No. 289.
3111. 2121, on Labiatae, S. obtuse .	microspora	No. 292.
3111. 4242, S. obtuse . . . . .	AMBIGUA var. MAJOR	No. 326.
3111. 3242, on Labiatae S. obtuse .	ambigua	No. 348.
3111. 3221, S. acute . . . . .	IPOMOEICOLA	No. 419.
3111. 5222, S. acute . . . . .	DECIDUA	No. 420.

On *Breweria*, *Dichondra*, *Evolvulus*, *Hewittia*, *Ipomoea*, *Merremia*,  
*Pharbitis*, Genera indet.

252. On Borraginaceae.

Irenopsis.

3401. 4220, on Malvaceae . . .	molleriana	No. 39.
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Irenina.

3101. 5330 . . . . .	LONGIPODA	No. 58.
3101. 4230, on Rubiaceae . . .	glabra	No. 66.

Meliola.

3112. 3221, on Saxifragaceae .	cylindrophora	No. 237.
3111. 6332, on Compositae S.		
obtuse . . . . .	spiegazziniana	No. 321.
3111. 4222, on Piperaceae S.		
acute . . . . .	stenospora	No. 477.

On *Cordia*, *Ehretia*, *Tournefortia*, *Varronia*, Genera indet.

253. On Verbenaceae.

Irenopsis.

3401. 4330, on Tiliaceae . . . .	coronata	No. 15.
3401. 3220 . . . . .	ACICULOSA var. VITICIS	No. 33.

Irenina.

3103. 5220 . . . . .	SEPULTA	No. 13.
3101. 5330, on Borraginaceae .	longipoda	No. 58.
3101. 4320, on Melastomataceae .	heudeloti	No. 59.
3101. 4230, on Rubiaceae . . .	glabra	No. 66.
3101. 3220, on Piperaceae . . .	glabroides	No. 72.
3101. 3220 . . . . .	VILIS	No. 98.

Meliola.

3133. 3242 . . . . .	CAMPYLOPODA	No. 89.
311 $\frac{1}{2}$ . 2211 . . . . .	AEGIPHILAE	No. 190.
3121. 223- . . . . .	LIPPIAE	No. 200.

3113. 3222 . . . . .	CALLICARPAE	No. 208.
3112. 3221 . . . . .	COOKEANA	No. 240.
3112. 3221, on Saxifragaceae . . . . .	cylindrophora	No. 267.
3111. 2121, on Labiatae S. obtuse . . . . .	microspora	No. 292.
3111. 3221, S. obtuse . . . . .	CLERODENDRICOLA	No. 312.
3111. 2221, S. obtuse . . . . .	MICROMERA	No. 313.
3111. 3221, S. obtuse . . . . .	SAKAWENSIS	No. 314.
3111. 3221, S. obtuse . . . . .	RIZALENSIS	No. 319.
3111. 2221, S. obtuse . . . . .	PARAENSIS	No. 325.
3111. 3242, on Labiatae, S. obtuse . . . . .	ambigua	No. 348.
3111. 4232, S. acute . . . . .	DURANTAE	No. 463.
3111. . . . .	amphitricha Exc.	
On Aegiphila, Avicennia, Callicarpa, Citharexylum, Clerodendron, Duranta, Gmelina, Lantana, Lippia, Premna, Stachytarpheta, Valerianodes, Verbena, Vitex, Genera indet.		
254. On Labiatae.		
Amazonia.		
3101. 3240, on Piperaceae . . . . .	asterinoides	No. 7.
Irene.		
3201. 3230, on Loganiaceae . . . . .	inermis	No. 25.
Irenina.		
3101. 3220 . . . . .	HYPTIDICOLA	No. 41.
3101. 3220 . . . . .	HYPTIDICOLA var. WOMBALENSIS	No. 42.
3101. 3220 . . . . .	ANASTOMOSANS	No. 43.
3101. 3220, on Bignoniaceae . . . . .	arachnoidea	No. 45.
Meliola.		
3111. 2121, S. obtuse . . . . .	MICROSPORA	No. 292.
3111. 3221, on Rubiaceae, S.		
obtuse . . . . .	psychotriae	No. 302.
3111. 3242, S. obtuse . . . . .	AMBIGUA	No. 348.
3111. 4222, on Combretaceae, S.		
acute . . . . .	pelliculosa	No. 459.
On Bradburia, Coleus, Hyptis, Plectranthus, Genera indet.		
256. On Solanaceae.		
Irene.		
3201. 5240 . . . . .	WINTERI	No. 19.
3201. 5240 . . . . .	WINTERI var. HYPHOPODIIGERA	No. 20.
3201. 4230 . . . . .	ADELPHICA	No. 21.
3201. 3230, on Loganiaceae . . . . .	inermis	No. 25.
Irenopsis.		
3402. 3220 . . . . .	SOLANI	No. 37.
Irenina.		
3101. 4220 . . . . .	PLEBEJA	No. 28.
3101. 4220 . . . . .	PLEBEJA var. ASPERRIMA	No. 29.

3101. 4230 . . . . .	LAETA	No. 30.
3101. 3220 . . . . .	SOLANICOLA	No. 31.
3101. 3220 . . . . .	PORTORICENSIS	No. 32.
3101. 4230, on Rubiaceae . . .	glabra	No. 66.
3101. 3220, on Piperaceae . . .	glabroides	No. 72.

## Meliola.

3143. 5221 . . . . .	DICRANOCHAETA	No. 43.
3133. 4221, on Leguminosae . .	bicornis	No. 78.
3132. 4221 . . . . .	WISMARENSIS	No. 93.
3132. 3221 . . . . .	FUSCIDULA	No. 94.
3131. 3221 . . . . .	SOLANICOLA	No. 108.
3131. 5333 . . . . .	CESTRICOLA	No. 180.
3112. 3221, on Verbenaceae . .	cookeana	No. 240.
3112. 3231, on Convolvulaceae .	malacotricha	No. 243.
3111. 3211, S. obtuse . . . . .	KARTABOENSIS	No. 316.
3111. 5233, S. obtuse . . . . .	CESTRI	No. 352.
3111. 4222, on Gesneriaceae, S.		
acute . . . . .	gesneriae	No. 426.
3111. 5221, on Santalaceae, S.		
acute . . . . .	polytricha	No. 430.
3111. 4221, S. acute . . . . .	CAPSICOLA	No. 495.
3111. . . . .	amphitricha Exc	

On Acnistus, Capsicum, Cestrum, "Nepanthis" (?) Physalis, Solanum.

## 257. On Scrophulariaceae.

## Irene.

3201. 3220 . . . . .	PEGLERAE	No. 18.
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## Irenina.

3101. 4230, on Rubiaceae . . .	glabra	No. 66.
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## Meliola.

3112. 3221, on Verbenaceae . .	cookeana	No. 240.
3111. 2121, on Labiatae . . . .	microspora	No. 292.

On Anastrabe, Halleria.

## 258. On Bignoniaceae.

## Irenopsis.

3401. 5320, on Myrsinaceae . .	armata	No. 25.
3301. 5230, on Piperaceae . . .	tortuosa	No. 39.
3101. 3210 . . . . .	BIGNONIACEARUM	No. 45.

## Irenina.

3101. 4220, on Solanaceae . . .	plebeja	No. 28.
3101. 3220 . . . . .	ARACHNOIDEA	No. 45.
3101. 3220 . . . . .	GLABROIDES var. SCHLEGELIAE	No. 73.

## Meliola.

3141. 4221 . . . . .	TUMOR	No. 49.
3141. 3221 . . . . .	LUNDIAE	No. 51.



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| 3141. 4231, on Palmae . . . . .                | furcata                    | No. 65.  |
| 3132. 4231 . . . . .                           | HARIOTI                    | No. 96.  |
| 3131. 3221 . . . . .                           | CYDISTAE                   | No. 102. |
| 3131. 2221 . . . . .                           | DENTIFERA                  | No. 103. |
| 3131. 4222, on Piperaceae . . . . .            | patouillardii              | No. 109. |
| 3131. 3222 . . . . .                           | BIGNONIACEARUM             | No. 115. |
| 3131. 4221 . . . . .                           | BIDENTATA                  | No. 116. |
| 3121. 4221 . . . . .                           | TECOMAE                    | No. 188. |
| 3111. 2121, S. obtuse . . . . .                | CRESCENTIAE                | No. 275. |
| 3111. 3221, S. obtuse . . . . .                | GNATHONELLA                | No. 287. |
| 3111. 3221, S. obtuse . . . . .                | SHROPSHIRIANA              | No. 288. |
| 3111. 2121, on Labiatae, S. obtuse . . . . .   | microspora                 | No. 292. |
| 3111. 3242, on Labiatae, S. obtuse . . . . .   | ambigua                    | No. 348. |
| 3111. 2221, S. obtuse . . . . .                | PERUVIANA                  | No. 353. |
| 3111. 2111, S. obtuse . . . . .                | PERUVIANA var. IRREGULARIS | No. 354. |
| 3111. 4221, on Myrsinaceae, S. acute . . . . . | delicatula                 | No. 411. |
| 3111. 3221, S. acute . . . . .                 | BRASILIENSIS               | No. 413. |
| 3111. 4232, S. acute . . . . .                 | LANCEOLATO-SETOSA          | No. 428. |
| 3111. . . . .                                  | amphitricha Exc.           |          |
- On Adenocalymma, Amphilophium, Arrabidaea, Bignonia, Crescentia, Cydista, Heterophragma, Jacaranda, Lundia, Macrodiscus, Markhamia, Phryganocydia, Schlegelia, Tabebuia, Tecoma, Tanaecium, Bignoniaceae indet.
262. On Gesneriaceae.
- Irenina.
- |                      |            |         |
|----------------------|------------|---------|
| 3101. 4220 . . . . . | CYRTANDRAE | No. 78. |
|----------------------|------------|---------|
- Meliola.
- |                                       |           |          |
|---------------------------------------|-----------|----------|
| 3131. 4221, on Bignoniaceae . . . . . | bidentata | No. 116. |
| 3111. 2121, S. obtuse . . . . .       | COLUMNEAE | No. 307. |
| 3111. 3221, S. obtuse . . . . .       | PUMILA    | No. 379. |
| 3111. 4222, S. acute . . . . .        | GESNERIAE | No. 426. |
- On Besleria, Boea, Columnea, Cyrtandra, Gesneria.
266. On Acanthaceae.
- Irenina.
- |                      |             |         |
|----------------------|-------------|---------|
| 3101. 4220 . . . . . | IRREGULARIS | No. 37. |
|----------------------|-------------|---------|
- Meliola.
- |   |             |          |
|---|-------------|----------|
| 3111. 3221, on Rubiaceae, S. obtuse . . . . . | psychotriae | No. 302. |
|---|-------------|----------|
- On Barleria, Hygrophila, Isoglossa.
269. On Plantaginaceae.
- Meliola.
- |  |            |          |
|--|------------|----------|
| 3111. 5221, on Santalaceae, S. acute . . . . . | polytricha | No. 430. |
|--|------------|----------|
- On Plantago.
270. On Rubiaceae. SA

## Amazonia.

3101. 3240, on Piperaceae . . .	asterinoides	No. 7.
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## Irene.

2201. 4220, on Rosaceae . . .	calostroma	No. 7.
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## Irenopsis.

3401. 4220 . . . . .	CHIOCOCCAE	No. 7.
3401. 4330, on Tiliaceae . . .	coronata	No. 15.
3401. 2120 . . . . .	BAYAMONENSIS	No. 24.

## Irenina.

2101. 4220, on Myricaceae . . .	manca	No. 6.
3102. 2220 . . . . .	UNCARIAE	No. 19.
3101. 4220, on Solanaceae . . .	plebeja	No. 28.
3101. 32-0 . . . . .	PENICILLIFORMIS	No. 39.
3101. 3220 . . . . .	ISERTIAE	No. 64.
3101. 4230 . . . . .	GLABRA	No. 66.
3101. 3220 . . . . .	SEMINATA	No. 95.

## Meliola.

3411. 5123 . . . . .	MAYAGUEZIANA	No. 28.
3411. 3223 . . . . .	KADUAE	No. 34.
3142. 4232, on Santalaceae . .	bifida	No. 45.
3132. 4221 . . . . .	KAUAIENSIS	No. 95.
3131. 2221 . . . . .	DUGGENAE	No. 122.
31 $\frac{1}{2}$ l. 2221 . . . . .	DUGGENAE var. PANAMENSIS	No. 123.
31 $\frac{1}{2}$ l. 2221 . . . . .	ANCEPS	No. 147.
31 $\frac{1}{2}$ l. 3221 . . . . .	ANCEPS var. MUSSAENDAE	No. 148.
31 $\frac{1}{2}$ l. 3221 . . . . .	MAKILINGIANA	No. 149.
31 $\frac{1}{2}$ l. 4232, on Apocynaceae . .	intermedia	No. 201.
3112. 3222 . . . . .	SANDWICENSIS	No. 257.
3111. 2121, on Labiatae, S. obtuse	microspora	No. 292.
3111. 3121, S. obtuse . . . .	OUROUPARIAE	No. 301. x
3111. 3221, S. obtuse . . . .	PSYCHOTRIAE	No. 302.
3111. 4121, S. obtuse . . . .	EVEAE	No. 303. x
3111. 4224, S. obtuse . . . .	MELANEAE	No. 304.
3111. 4222, S. obtuse . . . .	VICINA	No. 305.
3111. 2111, S. obtuse . . . .	AMPHIGENA	No. 306. *
3111. 4223, S. obtuse . . . .	LONGISETA	No. 367.
3111. 4222, S. obtuse . . . .	ALIBERTIAE	No. 368.
3111. 5222 . . . . .	WOODIANA	No. 371.
3111. 4222, on Lauraceae, S. acute	zig-zag	No. 412.
3111. 3221, S. acute . . . .	MITCHELLAE	No. 440.
3111. 4222, S. acute . . . .	MITRAGYNES	No. 456.
3111. 3223, S. acute . . . .	IXORAE	No. 470.
3111. 3221, S. acute . . . .	PALAWANENSIS	No. 480.
3111. . . . .	amphitricha Exc.	

On Alibertia, Borreria, Canthium, Cephaelis, Chiococca, Coccocypselum, Coprosma, Duggena, Erithalis, Evea, Galopina, Gardenia, Genipa, Gonzalagunia, Gouldia, Grumilea, Guettarda, Hamelia, Isertia, Ixora, Kadua, Lerchea, Malanea, Mitchellia, Mitragyne, Mitriostigma, Morinda, Mussaenda, Ourouparia (Uncaria), Palicourea, Pavetta, Plec-tronia, Posoqueria, Psychotria, Randia, Rondeletia, Sabicea, Straussia, Timonius, Webera, Genera indet.

## 271. On Caprifoliaceae.

Irenina.

3101. 4230 . . . . . VIBURNI No. 48

Meliola.

3111. . . . . amphitricha Exc.

On Viburnum.

## 275. On Cucurbitaceae. SJH

Irenopsis.

3401. 3220 . . . . . ACICULOSA No. 32.

3401. 4230 . . . . . ZEHNERIAE No. 23a.

Irenina.

3101. 3220 . . . . . NIGRA No. 70.

3101. 4220 . . . . . ANGUIRIAE No. 74.

3101. 3120 . . . . . CONFRAGOSA No. 80.

3101. 4230 . . . . . TRILOBA No. 93.

Meliola.

3141. 4221 . . . . . CUCURBITACEARUM No. 70.

3112. 3231, on Convolvulaceae . malacotricha No. 243.

3112. 4222 . . . . . MALACOTRICH var. MAJOR No. 244.

On Anguria, Cayaponia, Cucurbita, Luffa, Trichosanthes, Zehneria, Cucurbitaceae, ind.

## 276. On Campanulaceae.

Amazonia.

3101. 3240, on Piperaceae . . . asterinoides No. 7.

Irene.

3201. 4220, on Euphorbiaceae . . larviformis No. 11.

3201. 5220, on Compositae . . . sororeula No. 8.

Meliola.

3412. 4221 . . . . . LOBELIAE No. 25.

On Clermontia, Lobelia, Genera indet.

## 277. On Goodeniaceae.

Amazonia.

3101. 3240, on Piperaceae . . . asterinoides No. 7.

Irenopsis.

3402. 4230 . . . . . SCAEVOLICOLA No. 4.

## Meliola.

3111. 3222, *S. obtuse* . . . . . SCAEVOLAE No. 286.

On *Scaevola*.280. On Compositae. *SJA*

## Amazonia.

3101. 3240, on Piperaceae . . . asterinoides No. 7.

## Irene.

3201. 5220 . . . . . SORORCULA No. 8.

3201. 3220 . . . . . SORORCULA var. VERNONIAE No. 9.

3201. 4220 . . . . . SORORCULA var. PORTORICENSIS No. 10.

3201. 3230, on Loganiaceae . . . inermis No. 25.

## Irenopsis.

3402. 3220 . . . . . CONFERTA No. 5.

3301. 5220, on Piperaceae . . . tortuosa No. 39.

## Irenina.

2101. 4220 . . . . . ABNORMIS No. 2.

3101. 3220 . . . . . CYCLOPODA No. 23.

3101. 4230, on Rubiaceae . . . glabra No. 66.

## Meliola.

3141. 4331 . . . . . MIKANIAE No. 52.

3112. 3231, on Convolvulaceae . malacotricha No. 243.

3111. 6332, *S. obtuse* . . . . . SPEGAZZINIANA No. 321.

3111. 3213, *S. obtuse* or *acute* . ANGUSTISPORA No. 394.

3111. 3221, *S. acute* . . . . . BONINENSIS No. 479.

3111 . . . . . amphitricha Exc.

On *Baccharis*, *Bidens*, *Calea*, *Calendula*, *Chuquiragua*, *Elephantopus*, *Eupatorium*, *Liabum*, *Mikania*, *Moquinia*, *Osmia*, *Pseudelephantopus*, *Rhacoma*, *Leuzea*, *Schistocarpha*, *Senecio*, *Synanthera*, *Vernonia*, *Willughbya*, *Compositae* indet.

## 281. On Pteridophytes.

## Irene.

3301. 5220, on Piperaceae . . . tortuosa No. 39.

## Moliola.

3121. 3121 . . . . . CORNUTA No. 189.

3111. 3221, *S. obtuse* . . . . . PTERIDICOLA No. 334.

On *Adiantum*, *Aneimia*, *Dicksonia*, *Lygodium*.

## 292. Fungi.

## Meliolina.

4100. 41-0 . . . . . PAULLINIAE No. 1.

4100. 4230 . . . . . IRENICOLA No. 2.

2100. 4230 . . . . . MELIOLAE No. 4.

2110. 3121 . . . . . IQUITOSENSIS No. 19.

On *Meliola*, *Irene*.



**Species with the Type on hosts of unknown Genus  
or Family.**

*Meliolina fuscopulveracea* No. 5, 2100. 2110.

*Meliolina orbicularis* No. 9, 31 $\frac{1}{2}$ 0. 6243.

*Irene natalensis* No. 1, 2203. 4220.

*Irene rimbachi* No. 13, 320?. 4230.

*Irene tuberculata* No. 24, 3201. 3230.

*Irene inermis* var. *macilenta* No. 26, 3201. 3230.

*Irene echinata* No. 27, 3201. 5220.

*Irenopsis guignardi* No. 1, 2401. 6340.

*Irenopsis curvata* No. 27, 3401. 4220.

*Irenina boni* No. 7, 2101. 5320.

*Irenina ampullifera* No. 14, 3103. 5330.

*Irenina conglomerata* No. 33, 3101. 4230.

*Irenina tomentosa* No. 68, 3101. 5330.

*Meliola wainioi* No. 2, 2121. 6342.

*Meliola guaranítica* No. 13, 2111. 4233.

*Meliola lanosa* No. 14, 2111. 6341.

*Meliola mattogrossensis* No. 20, 34 $\frac{1}{3}$ 3. 3222.

*Meliola pennata* No. 35, 3411. 5323.

*Meliola heterodonta* No. 76, 31 $\frac{3}{4}$ 1. 3223.

*Meliola monilisporea* No. 117, 3131. 5221.

*Meliola andina* No. 131, 3131. 3231.

*Meliola megalopoda* No. 196, 3121. 5343.

*Meliola balansae* No. 202, 31 $\frac{1}{2}$ 1. 6332.

*Meliola ludibunda* No. 220, 3113. 4232.

*Meliola rehmii* No. 223. 3113. 2222.

*Meliola leopoldina* No. 259, 3112. 6342.

*Meliola leptopus* No. 262, 3112. 5232.

*Meliola acamptinga* No. 263, 3112. 4234.

*Meliola nicaraguensis* No. 265, 3112. 3221.

*Meliola formosa* No. 272, 3112. 1---.

*Meliola samarensis* No. 282, 3111. 4233.

*Meliola mitchellae* var. *orthopus* No. 365, 3111. 4221.

*Meliola woodiana* No. 371, 3111. 5222.

*Meliola aliena* No. 389, 3111. 4221.

*Meliola leptospora* No. 413, 3111. 5222.

*Meliola effusa* No. 421, 3111. 5223.

*Meliola thollonis* No. 438, 3111. 6332.

*Meliola cylindripoda* No. 462, 3111. 4232.

*Meliola acanthopoda* No. 496, 3111. 4231.

**List of host genera with the families to which they belong indicated.**

Abies-Pina	Arabis-Crucifer	Boscia-Capparida
Abutilon-Malvac	Aralia-Araliac	Bradburia-Leg
Acacia-Leg	Ardisia-Myrsin	Breweria-Convulvul
Acaena-Rosa	Aristolochia-Aristoloch	Bruguiera-Rhizophor
Acalypha-Euphorb	Arrabidaea-Bignon	Brunchosia-Malpigh
Achatocarpus-Phytolacc	Artanthes-Piper	Brysonima-Malpigh
Aenistus-Solan	Artocarpus-Mora	Buchanania-Anacard
Aceridocarpus-Malpigh	Arundinaria-Gramin	Buddleia-Logan
Acrista-Palm	Arundo (Donax) -Gramin	
Acrotrema-Dilleni	Arytera-Sapind	Cabralea-Meliac
Adenocalymma-Bignon	Aspidosperma-Apocy	Cactus-Cactac
Adiantum-Pterid	Astronium-Anacard	Caesalpinia-Leg
Aegiphila-Verb	Atalantia-Rutac	Calea-Composit
Aganosma-Apocy	Aucuba-Cornac	Calendula-Composit
Aglaia-Meliac	Aurantiacea-Rutac	Callicarpa-Verb
Agonandra-Opilia	Avicennia-Verb	Calophyllum-Guttifer
Alangium-Cornac		Calopogonium-Leg
Alchornea-Euphorb	Baccharis-Composit	Calathea-Maranta
Alibertia-Rubi	Bactris-Palm	Canarium-Burser
Allophylus-Sapind	Balfourodendron-Rutac	Canthium-Rubi
Alocasia-Ara	Bambusa-Gramin	Capsicum-Solan
Alphitonia-Rhamnac	Banara-Flacourt	Carica-Caricac
Alsodeia-Violac	Banisteria-Malpigh	Carissa-Apocy
Alstonia-Apocy	Baphia-Leg	Carludovica-Cyclant
Alyxia-Apocy	Barbacenia-Velloz	Casearia-Flacourt
Amerimnum-Leg	Barleria-Acanth	Cassia-Leg
Amomis-Myrtac	Barosma-Rutac	Castela-Simarub
Amoora-Meliac	Barringtonia-Lecythidac	Cavendishia-Ericac
Amphilophium-Bignon	Barteria-Flacourt	Cayaponia-Cucurbit
Amyris-Rutac	Bastardiopsis-Malvac	Cecropia-Mora
Anacardium-Anacard	Baumea-Cyper	Celastrus-Celast
Anastrabe-Scrophular	Behnia-Lili	Celtis-Ulma
Andira-Leg	Berlinia-Bignon	Centrosema-Leg
Andromeda-Ericac	Besleria-Gesner	Cephaelis-Rubi
Andropogon-Gramin	Bignonia-Bignon	Cestrum-Solan
Aneimia-Pterid	Bihai-Marant	Chaetochloa-Gramin
Anguria-Cucurbit	Boea-Gesner	Chamaecrista-Leg
Anona-Anona	Boerlagiodendron-	Champeria-Santal
Anthistiria-Gramin	Araliac	Champereia-Opilia
Antidesma-Euphorb	Boldoa-Monimia	Cheirodendron-Araliac
Apodytes-Icacin	Borreria-Rubi	Chelonanthus-Gentian

Chilianthus-Logan	Cunonia-Cunon	Elaeodendron-Celast
Chiococca-Rubi	Cupania-Sapind	Elatostema-Urti
Chiquiragua-Composit	Curtisia-Cornac	Eleocharis-Cyper
Choristylis-Saxi	Cussonia-Araliac	Entada-Leg
Chloris-Gramin	Cyperus-Cyper	Erithalis-Rubi
Chrysophyllum-Sapot	Cyrtandra-Gesner	Erythrina-Leg
Chusquea-Gramin		Eucalyptus-Myrtac
Cinnamomum-Laur	Dalbergia-Leg	Eugenia-Myrtac
Cissus-Vitac	Daphnopsis-Thymel	Eupatorium-Composit
Citharexylum-Verben	Dendropanax-Araliac	Evea-Rubi
Citrus-Rutac	Derris-Leg	Evodia-Rutac
Cladium-Cyper	Desmodium (Meibomia)- Leg	Evolvulus-Convulvul
Claoxylon-Euphorb	Desmoncus-Palm	Excoecaria-Euphorb
Clematis-Ranuncul	Dianella-Lilia	Exocarpus-Santal
Clermontia-Campanul	Dichondra-Convulvul	
Clerodendron-Verb	Dicksonia-Pterid	Fagara-Rutac
Clidemia-Melast	Didymopanax-Araliac	Fagraea-Logan
Cliffortia-Rosa	Dieffenbachia-Ara	Ficus-Mora
Clitoria-Leg	Dimerocostus-Zingib	Flindersia-Ruta
Clusia-Guttifer	Dimorphandra-Leg	Forsteronia-Apocy
Cluytia-Euph	Diodia-Leg	Funtumia-Apocy
Coccoeypselum-Rubi	Dioscorea-Lilia	
Coccoloba-Polygon	Diospyros-Eben	Gahnia-Cyper
Coccothrinax-Palm	Dipholis-Sapot	Galactia-Leg
Coleus-Labiata	Diphysa-Leg	Galipea-Rutac
Collaea-Leg	Dischidia-Asclepiad	Galopina-Rubi
Colliguaja-Euphorb	Dodonaea-Sapind	Garcinia-Guttifera
Colubrina-Rhamnac	Dolicholus-Leg	Gardenia-Rubi
Combretum-Combret	Doliocarpus-Dillen	Garrya-Cornac
Comocladia-Anacard	Donax-Marant	Gaultheria-Ericac
Connarus-Connar	Dovyalis-Flacourt	Gaylussacia-Eric.
Conostegia-Melast	Dracaena-Lilia	Genipa-Rubi
Copernicia-Palm	Dracontomelon-Anac	Geum-Rosa
Coprosma-Rubi	Drymis-Magnolia	Gesneria-Gesner
Cordia-Borrag	Duggena-Rubi	Gleditschia-Leg
Coriacea-Umbellifer	Duranta-Verb	Gliricidia-Leg
Cornus-Cornac	Duvaua-Anac	Glycosmis-Rutac
Costus-Zingiber	Dysoxylum-Meliac	Gmelina-Verb
Coussapoa-Mora		Goeppertia-Laur
Crossopetalum-Celast		Gonolobus-Asclepiad
Crescentia-Bignon	Echites-Apocy	Gonzalagunia-Rubi
Croton-Euphorb	Ehretia-Borrag	Gordonia-Theac
Cryptocarya-Laur	Elaeis-Palm	Gouania-Rhamnac
Cucurbita-Cucurbit	Elaeocarpus-Vitac	Gouldia-Rubi

Grevillea-Protea	Inga-Leg	Luehea-Tilia
Grumilea-Rubi	Inocarpus-Leg	Luffa-Cucurbit
Guarania-Euph	Iodina-Santal	Luhea-Tiliac
Guaiacum-Zygoph	Ipomoea-Convolvul	Lumnitzera-Combret
Guarea-Meliac	Isertia-Rubi	Lunasia-Rutac
Guaiacum-Zygophyll	Isoglossa-Acanth	Lundia-Bign
Guatteria-Anona	Itea-Saxifrag	Lygodium-Pterido
Guettarda-Rubi	Ixora-Rubi	
Guioa-Sapind		Maba-Eben
Gymnanthes-Euphorb	Jacaranda-Bignon	Macaranga-Euphorb
Gymnosporia-Celast	Jatropha-Euphorb	Macrodiscus-Bignon
	Jasminum-Oleac	Maerua-Capparid
	Justicia-Acanth	Maesa-Myrsin
Halleria-Scroph		Magnolia-Magnolia
Hamelia-Rubi	Kadua-Rubi	Malache-Malv
Hancea-Euphorb	Kibara-Monimia	Mallotus-Euphorb
Harpophyllum-Anacard	Knowltonia-Ranunc	Malpighia-Malpig
Harpullia-Sapind	Krugiodendron-Rhamnac	Malouetia-Apoc
Hedera-Araliac		Malanea-Rubi
Hedwigia-Burser	Labordea-Logan	Mammea-Guttifer
Heleocharis-Cyper	Lagenocarpus-Cyperac	Mandevillea-Apocy
Heliconia-Musa	Laguncularia-Combret	Mangifera-Anacard
Helicteres-Sterculi	Lantana-Verb	Manihot-Euphorb
Helietta-Rutac	Lasiacis-Gramin	Mapania-Cyper
Heteromeles-Rosa	Leandra-Melast	Maranta-Maranta
Hewittia-Convolvul	Lepisanthes-Sapind	Marcgravia-Maregr
Hibiscus-Malvac	Lerchea-Rubi	Markhamia-Bignon
Hippobromus-Sapind	Leucosidea-Rosa	Mariscus-Cyper
Hippocratea-Hippocrat	Leucosyke-Urti	Matayba-Sapind
Hippomane-Euphorb	Leuzea (Rhacoma)	Mauria-Anacard
Holocalyx-Leg	-Composit	Mauritia-Palm
Homonoia-Euphorb	Liabum-Composit	Mayepea-Oleac
Hopea-Dipterocarp	Linociera-Oleac	Maytenus-Celast
Horsfieldia-Myristic	Lippia-Verb	Melaleuca-Myrtac
Hoya-Asclepiad	Lisianthus-Gentian	Melicocca-Sapind
Hygrophila-Acanth	Lithraea-Anacard	Memecylon-Melast
Hymenaea-Leg	Litsea-Laur	Merremia-Convolvul
Hypelate-Sapind	Livistona-Palm	Metrosideros-Myrtac
Hyptis-Labiat	Lobelia-Campanul	Miconia-Melast
	Lomatia-Protea	Mikania-Composit
Ichnanthus-Gramin	Lonchocarpus-Leg	Millettia-Leg
Icica-Burser	Loranthus-Loranth	Mimosa-Leg
Ilex-Aquifol	Loxostylis-Anacard	Mitchella-Rubi
Imperata-Gramin	Lucuma-Sapot	Mitra-Logan
Indigofera-Leg		



Mitragyne-Rubi	Paralstonia-Apocy	Prunus-Rosa
Mollinedia-Monim	Parathesis-Myrsin	Pseudelephantopus-
Monnieria-Rutac	Paratropia-Araliac	Composit
Monnina-Polygal	Paropsia-Passiflor	Psidium-Myrtac
Montrichardia-Arac	Paspalum-Gramin	Psilostoma-Rubi
Moquinia-Composit	Passiflora-Passiflorac	Psoralea-Leg
Morinda-Rubi	Paullinia-Sapind	Psychotria-Rubi
Moya-Celast	Pavetta-Rubi	Pterocarpus-Leg
Murraya-Rutac	Peddiea-Thymel	Pterospermum-Stere
Mussaenda-Rubi	Pelea-Rutac	Pueraria-Leg
Myrcia-Myrtac	Pentaclethra-Leg	Pygeum-Rosa
Myrica-Myrica	Perrottetia-Celast	Pyrenacantha-Icac
Myriocarpa-Urtic	Persea-Laur	
Myroxylon-Flacourt	Petiveria-Phytolacc	Quercus-Faga
Myrsine-Myrsin	Phanera-Leg	
Mystroxyton-Celast	Pharbitis-Convolvul	
	Phaseolus-Leg	
Nectandra-Laur	Philodendron-Ara	Randia-Rubi
"Nepanthis"-Solan?	Phoebe-Laura	Rauwolfia-Apocy
Nephelium-Sapind	Phoenix-Palm	Ravenala-Musa
Nuxia-Logan	Photinia-Rosa	Rhabdadenia-Apocy
	Phragmites-Gramin	Rheedia-Guttifer
Ochna-Ochna	Phryganocydia-Bignon	Rhododendron-Eriacac
Ochrosia-Apocy	Physalis-Solan	Rhoicissus-Vitac
Ocotea-Laur	Phytolacca-Phytolacc	Rhus-Anacard
Odina-Anacard	Pieramnia-Simaruba	Rinorea-Viola
Olea-Oleac	Pilea-Urti	Rhynchospora-Cyper
Olmedia-Mora	Pilocarpus-Rutac	Rollandia-Campanul
Olyra-Gramin	Pinus-Pina	Rosa-Rosa
Oncinotis-Apocy	Piper-Pipera	Rottboellia-Gramin
Oncoba-Flacourt	Pipturus-Urti	Rourea-Connar
Opilia-Opilia	Pisonia-Nyctagin	Roystonia-Palm
Oplismenus-Gramin	Pithecolobium-Leg	Rubus-Rosa
Ormocarpum-Leg	Pittosporum-Pittospor	Rudolphia-Leg
Osmanthus-Oleac	Plantago-Plantagin	Rupala-Protea
Osyridicarpus-Santal	Plectranthus-Labiata	
Osyris-Santal	Plectrionia-Rubi	Sabal-Palm
Otophora-Sapind	Pleurostyliia-Celast	Sabicea-Rubi
Ourouparia (Uncaria)	Plumiera-Apocy	Saccharum-Gramin
-Rubi	Podocarpus-Taxa	Salacia-Hippocratea
	Popowia-Anon	Sandoricum-Meliac
Palicourea-Rubi	Posoqueria-Rubi	Sapindus-Sapind
Palms-Palm	Premna-Verb	Saurauia-Dillen
Panicum-Gramin	Protium-Burser	Sauropus-Euphorb
		Sauvagesia-Ochnac
		Scaevola-Gooden



Scolopia-Flacourt	Symplocos-Symploc	Turpinia-Staphyl
Schefflera-Araliac	Synanthera-Comp	Tylophora-Asclepiad
Schima-Thea	Syzygium-Myrtac	
Schinus-Anacard		Uncaria-Rubi
Schistocarpa-Composit	Tabebuia-Bignon	Urania-Musa
Schizolobium-Leg	Tabernaemontana-Apocy	Urceola-Apocy
Schlegelia-Bignon	Talauma-Magnolia	Urvillea-Sapind
Schmidelia-Sapind	Tamarindus-Leg	Uvaria-Anona
Scirpus-Cyper	Tanaecium-Bignon	
Scleria-Cyper	Tapirira-Anacard	Vaccinium-Ericac
Sclerolobium-Leg	Taxus-Taxa	Valerianodes-Verb
Scutia-Rhamnac	Tecoma-Bignon	Varronia-Borrag
Sebastiania-Euphorb	Telosma-Asclepiad	Vavaea-Meliac
Semecarpus-Anacard	Tephrosia-Leg	Verbena-Verb
Senecio-Composit	Teramnus-Leg	Viburnum-Caprifol
Serenoa-Palm	Terebinthe-Anac	Villaresia-Icacin
Serjania-Sapind	Terminalia-Combret	Vincentia-Cyper
Sida-Malvac	Tetradenia-Sterculiac	Viscum-Loranth
Sideroxylon-Sapota	Tetragastris-Burser	Vismia-Guttifer
Simaba-Simarub	Thalia-Marant	Vitex-Verb
Simaruba-Simarub	Tetrastigma-Vitac	
Sloanea-Elaeocarp	Theobroma-Sterculia	Webera-Rubi
Smilax-Lilia	Thevetia-Apocy	Wikstroemia-Thymel
Solanum-Solan	Thouinia-Sapind	Willoughbya-Apocy
Sorocea-Mora	Thrinax-Palm	Willoughbya-Comp
Spartina-Gramin	Timonius-Rubi	Winterana-Canella
Spigelia-Logan	Toddalia-Rutac	Wormia-Dillen
Spondias-Anacard	Tounatea-Leg	Wrightia-Apocy
Stachytarpheta-Verb	Tournefortia-Borrag	
Stemona-Stemon	Trachelospermum-	Xylopia-Anona
Stenotaphrum-Gramin	Apocy	Xylosma-Flacourt
Stigmatophyllon-Malpig	Trema-Urti	Xymalos-Monimia
Straussia-Rubi	Trichosanthes-Cucurbit	
Strophanthus-Apocy	Trichilia-Meliac	Zanthoxylon (Xanthoxy-
Strychnos-Logani	Trichocladus-Hamamelid	lum) -Rutac
Styrax-Styrac	Trigonachras-Sapind	Zehneria-Cucurb
Suttonia-Myrsin	Trigonia-Trigon	Zollernia-Leg
Symphonia-Guttifer	Triumfetta-Tiliac	

**Families arranged alphabetically with family numbers.**

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153. Anacardiaceae	157. Aquifoliaceae	74. Aristolochiaceae
98. Anonaceae	23. Araceae	248. Asclepiadaceae

- |                       |                      |                       |
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| 258. Bignoniaceae     | 162. Icacinaceae     | 77. Polygonaceae      |
| 252. Borraginaceae    |                      | 66. Proteaceae        |
| 139. Burseraceae      | 254. Labiatae        |                       |
|                       | 102. Lauraceae       | 91. Ranunculaceae     |
| 210. Cactaceae        | 219. Lecythidaceae   | 169. Rhamnaceae       |
| 276. Campanulaceae    | 128. Leguminosae     | 220. Rhizophoraceae   |
| 197. Canellaceae      | 38. Liliaceae        | 126. Rosaceae         |
| 47. Cannaceae         | 245. Loganiaceae     | 270. Rubiaceae        |
| 107. Capparidaceae    | 67. Loranthaceae     | 137. Rutaceae         |
| 271. Caprifoliaceae   | 216. Lythraceae      |                       |
| 205. Caricaceae       |                      | 69. Santalaceae       |
| 158. Celastraceae     | 95. Magnoliaceae     | 165. Sapindaceae      |
| 221. Combretaceae     | 141. Malpighiaceae   | 239. Sapotaceae       |
| 280. Compositae       | 175. Malvaceae       | 117. Saxifragaceae    |
| 127. Connaraceae      | 48. Marantaceae      | 257. Scrophulariaceae |
| 249. Convolvulaceae   | 184. Marcgraviaceae  | 138. Simarubaceae     |
| 229. Cornaceae        | 223. Melastomataceae | 256. Solanaceae       |
| 105. Cruciferae       | 140. Meliaceae       | 161. Staphyleaceae    |
| 275. Cucurbitaceae    | 94. Menispermaceae   | 37. Stemonaceae       |
| 120. Cunoniaceae      | 101. Monimiaceae     | 178. Sterculiaceae    |
| 22. Cyclanthaceae     | 64. Moraceae         | 241. Styracaceae      |
| 20. Cyperaceae        | 45. Musaceae         | 242. Symplocaceae     |
|                       | 57. Myricaceae       |                       |
| 190. Dilleniaceae     | 99. Myristicaceae    | 5. Taxaceae           |
| 188. Dipterocarpaceae | 236. Myrsinaceae     | 186. Theaceae         |
|                       | 222. Myrtaceae       | 214. Thymelaeaceae    |
| 240. Ebenaceae        |                      | 174. Tiliaceae        |
| 171. Elaeocarpaceae   | 80. Nyctaginaceae    | 142. Trigoniaceae     |
| 233. Ericaceae        |                      |                       |
| 147. Euphorbiaceae    | 182. Ochnaceae       | 63. Ulmaceae          |
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| 62. Fagaceae          | 71. Opiliaceae       | 65. Urticaceae        |
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|                       | 21. Palmae           | 41. Velloziaceae      |
| 246. Gentianaceae     | 203. Passifloraceae  | 253. Verbenaceae      |
| 262. Gesneriaceae     | 83. Phytolaccaceae   | 198. Violaceae        |
| 277. Goodeniaceae     | 6. Pinaceae          | 170. Vitaceae         |
| 19. Gramineae         | 53. Piperaceae       | 46. Zingiberaceae     |
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| 123. Hamamelidaceae   | 145. Polygalaceae    | 282. Fungi            |
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*abjectum* (Wall.) Fuck., Dimerosporium. p. 289.  
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*acutiseta* Syd., Meliola. No. 500.  
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## Addendum.

*Irenina peddieae* (Doidge) n. comb.

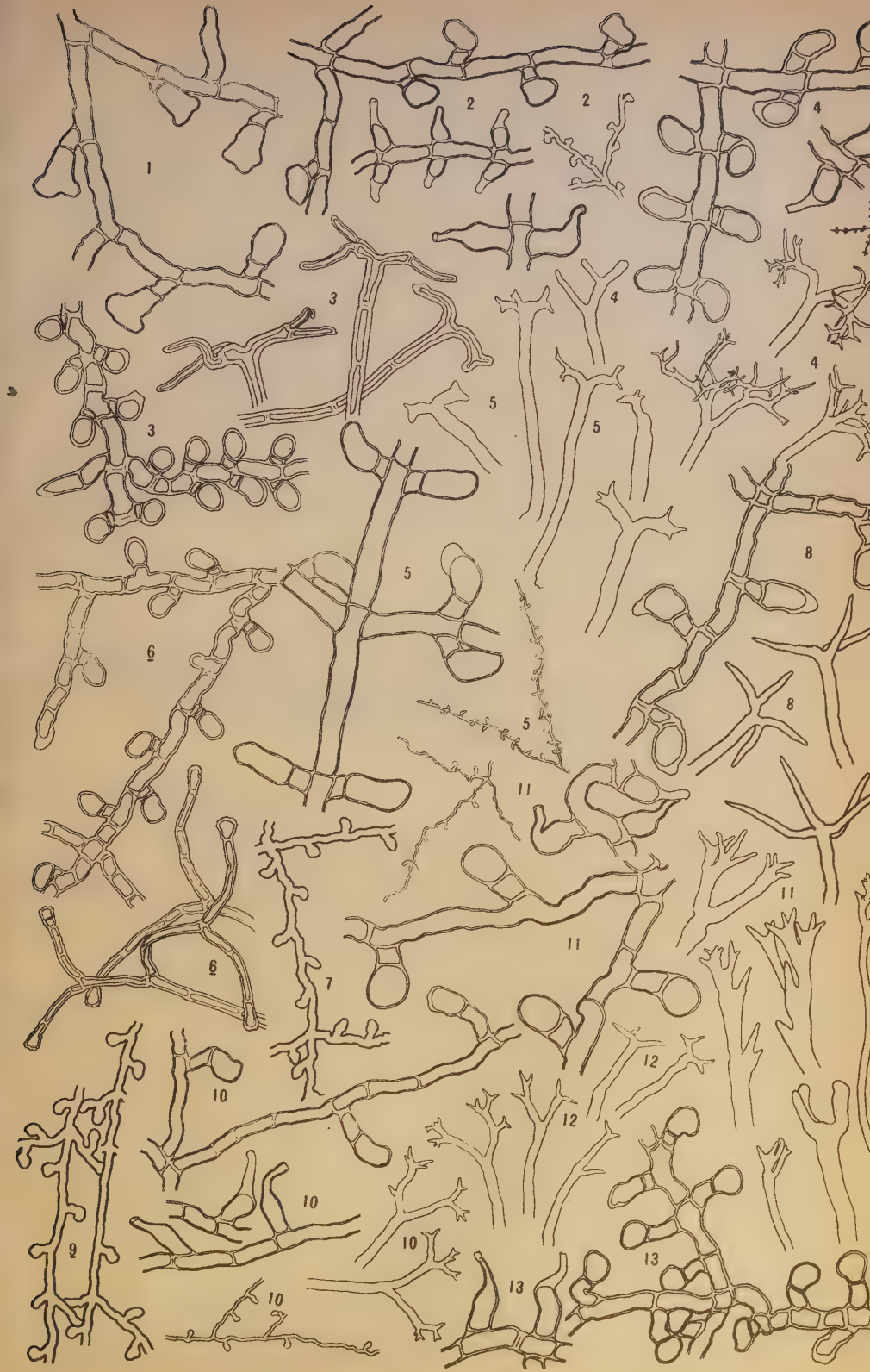
*Irene peddieae* Doidge. Both. 2: 235. 1927.

On Thymelaeaceae: Peddiea.

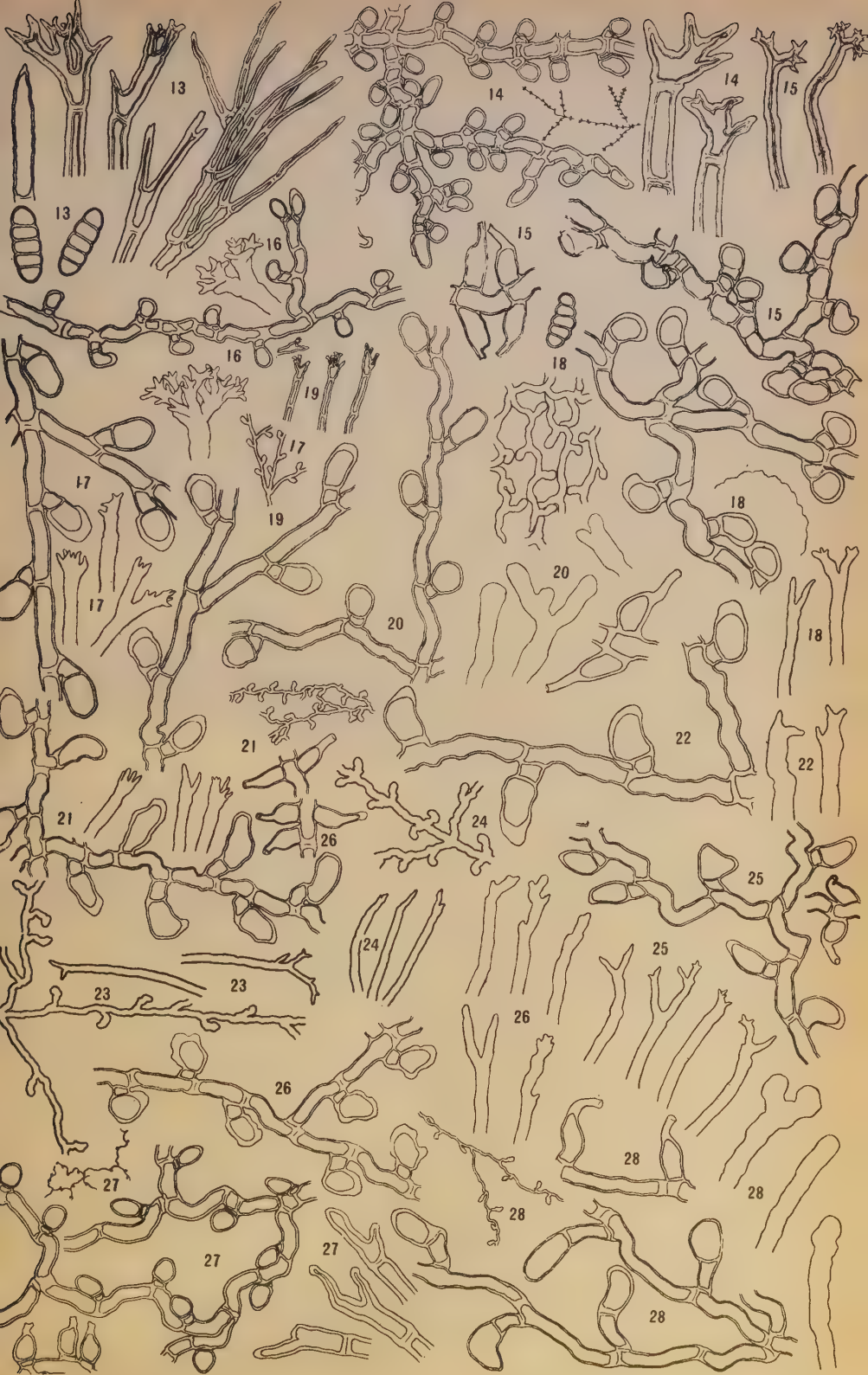
Type locality: South Africa.











1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.



